

**Short Form**

# OPTO ELECTRONIC COMPONENTS

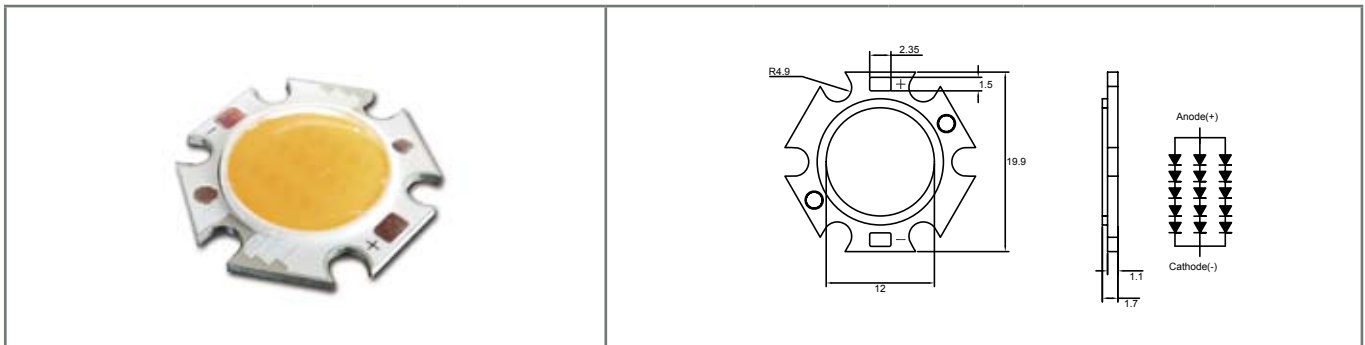


Greener  
and brighter

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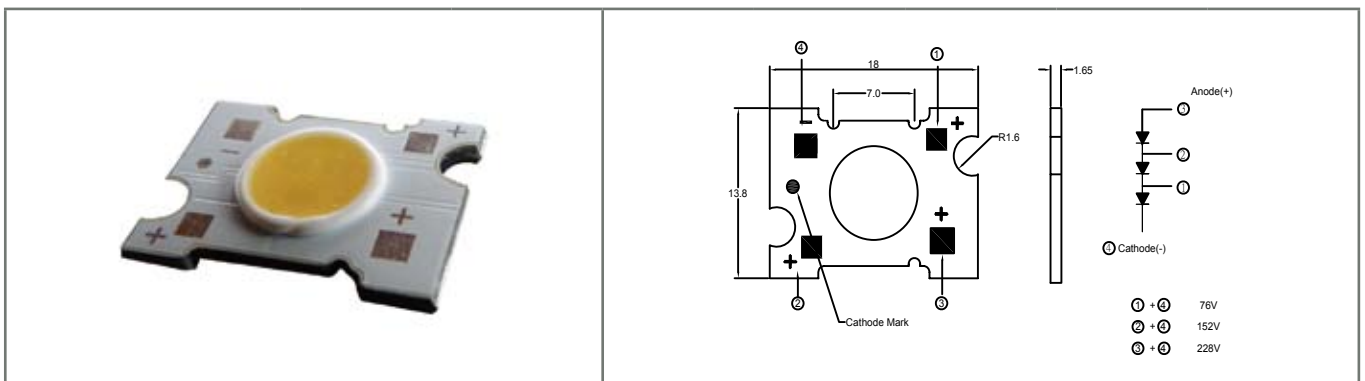
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7W



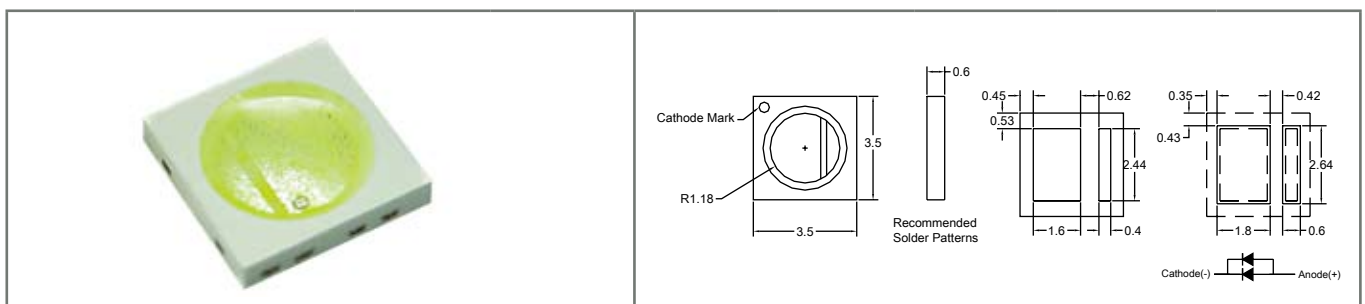
Part No	CRI	Chip		Vf(V)@400mA		lv(lm)@400mA	Viewing angle 2θ½
	Min	Material	CCT(k)	Typ	Max	Typ	
LG-CB07W-05S3PC-D802	80	InGaN	5310-6500	14	18	800	120
LG-CB07W-05S3PN-D802	80	InGaN	3710-4240	14	18	800	120
LG-CB07W-05S3PW-D802	80	InGaN	2870-3220	14	18	750	120

4W High Voltage



Part No	CRI	Chip		Vf(V)@20mA		lv(lm)@20mA	Viewing angle 2θ½
	Min	Material	CCT(k)	Typ	Max	Typ	
LG-CBHV225-03SCW-D01	80	InGaN	5310-7040	210	228	310	120
LG-CBHV225-03SNW-D01	80	InGaN	3710-4500	210	228	300	120
LG-CBHV225-03SWW-D01	77	InGaN	2580-3045	210	228	290	120

1W3535



Part No	CRI	Chip		Vf(V)@350mA		lv(lm)@350mA	Viewing angle 2θ½
	Min	Material	CCT(k)	Min	Max	Typ	
LG-E3535WKZ-X-T350-C-D701	70	InGaN	5310-6020	3	4.0	120	120
LG-E3535WKZ-X-T350-P--N-D801	80	InGaN	3710-4260	3	4.0	110	120
LG-E3535WKZ-X-T350-P-W-D801	80	InGaN	2870-3220	3	4.0	100	120

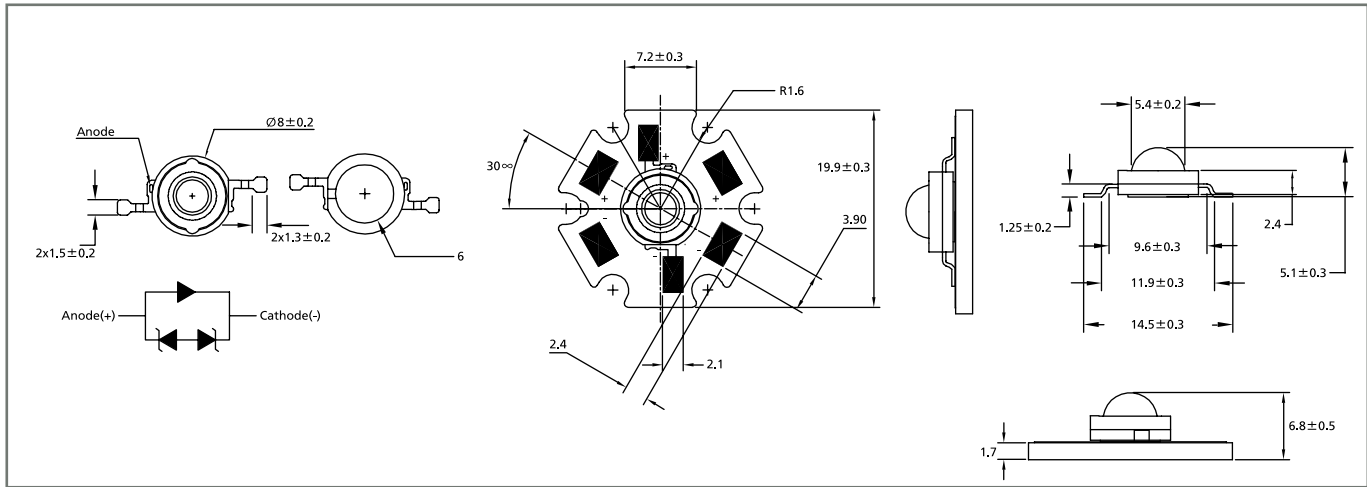
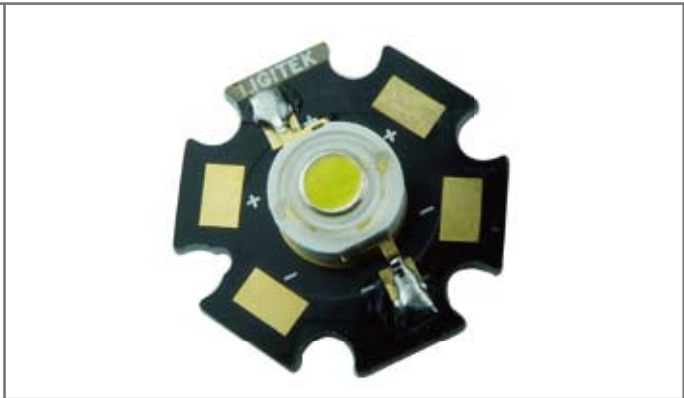
**1W EMITTER**

(Lambertian Radiation Type V/A 120°)



**1W STAR**

(Lambertian Radiation Type V/A 120°)



Part No	Emitting Color	λD or CCT(k)	Vf(V)@350mA		Flux(lm)		IF(mA)
			Typ	Max	Min	Typ	
LGFLR-311E	RED	625	2.5	3	23.5	39.8	350
LGFLY-311E	Amber	590	2.5	3	23.5	35	350
LGFLG-311E	True Green	525	3.6	4	30.6	55	350
LGFLI-311E	Purple	434	3.6	4	0.3	0.6	350
LGFLB-311E	Blue	470	3.6	4	10.7	17	350
LGFLW-311E1-1-B01	White	5000-7000	3.6	4	90	110	350
LGFLN-311E1-1-B01	Natural White	3800-5000	3.6	4	70	85	350
LGFLV-311E1-1-B01	Warm White	2670-3800	3.6	4	67.2	87.4	350

Part No	Emitting Color	λD or CCT(k)	Vf(V)@350mA		Flux(lm)		IF(mA)
			Typ	Max	Min	Typ	
LGFLR-311H	RED	625	2.5	3	23.5	39.8	350
LGFLY-311H	Amber	590	2.5	3	23.5	35	350
LGFLG-311H	True Green	525	3.6	4	30.6	55	350
LGFLI-311H	Purple	434	3.6	4	0.3	0.6	350
LGFLB-311H	Blue	470	3.6	4	10.7	17	350
LGFLW-311H1-1-B01	White	5000-7000	3.6	4	90	110	350
LGFLN-311H1-1-B01	Natural White	3800-5000	3.6	4	70	85	350
LGFLV-311H1-1-B01	Warm White	2670-3800	3.6	4	67.2	87.4	350

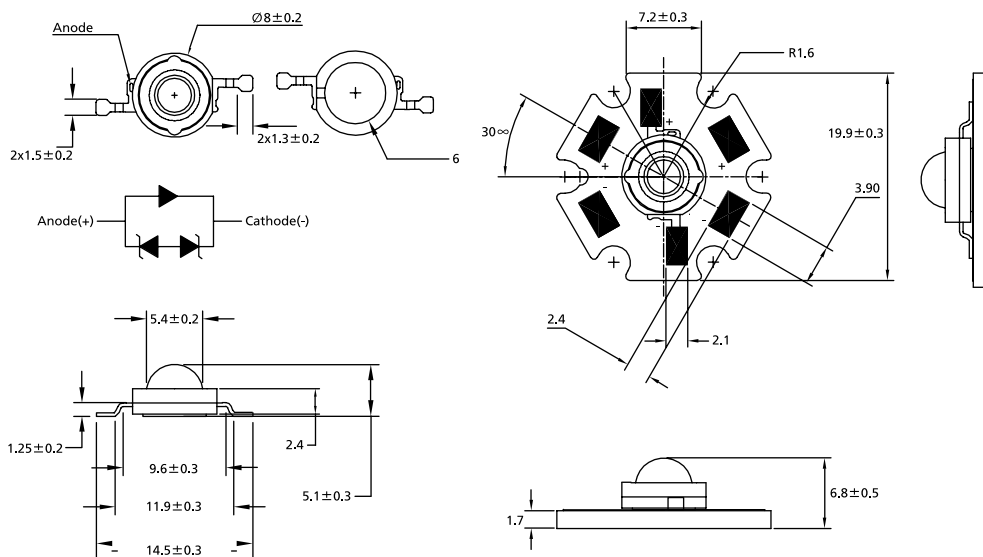
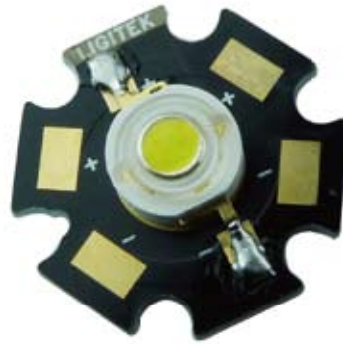
### 1W EMITTER

(Lambertian Radiation Type V/A 60°)



### 1W STAR

(Lambertian Radiation Type V/A 60°)



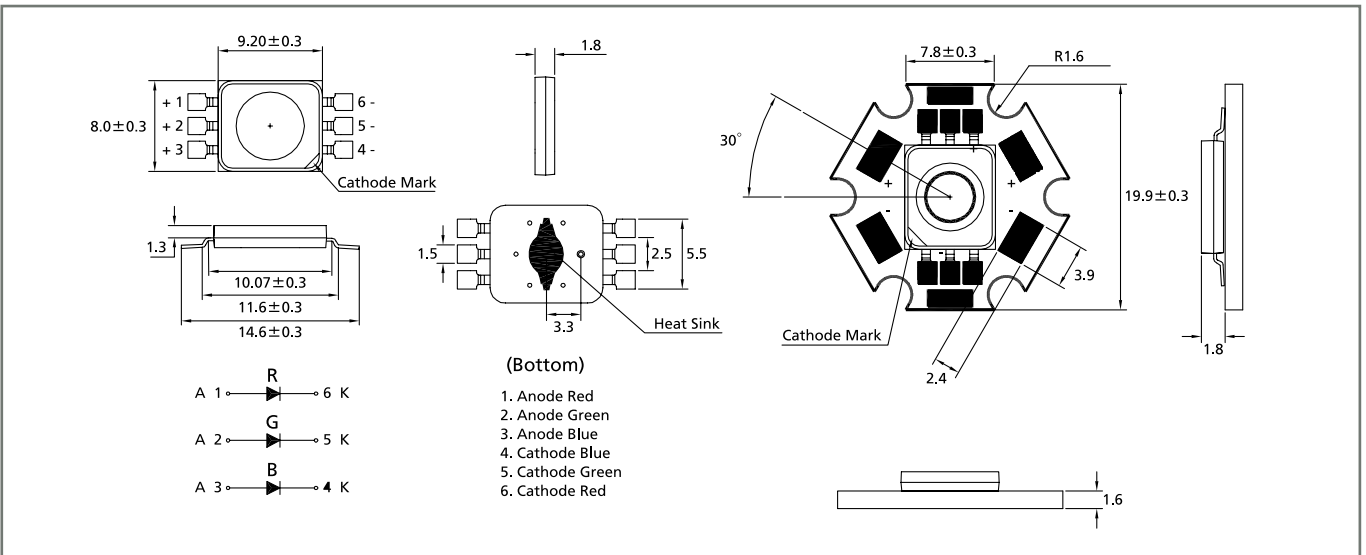
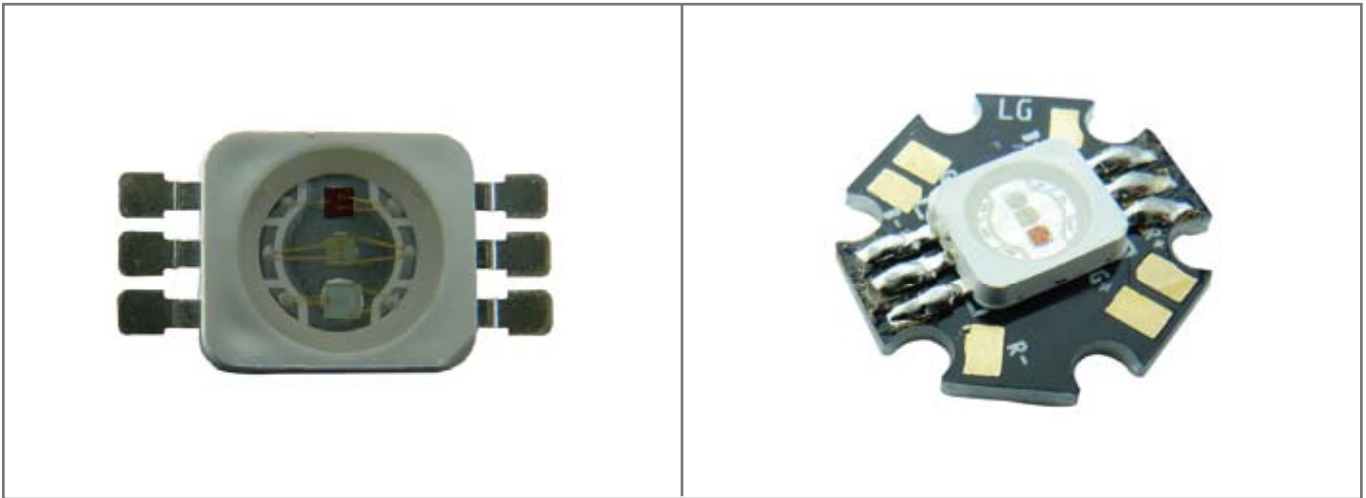
Part No	Emitting Color	$\lambda_D$ or CCT(k)	$V_f(V)@350mA$		Flux(lm)		IF(mA)
			Typ	Max	Min	Typ	
LGFLW-311E1-1-60-B01	White	5000-7000	3.6	4	90	110	350
LGFLN-311E1-1-60-B01	Natural White	3800-5000	3.6	4	70	85	350
LGFLV-311E1-1-60-B01	Warm White	2670-3800	3.6	4	67.2	87.4	350

Part No	Emitting Color	$\lambda_D$ or CCT(k)	$V_f(V)@350mA$		Flux(lm)		IF(mA)
			Typ	Max	Min	Typ	
LGFLW-311H1-1-60-B01	White	5000-7000	3.6	4	90	110	350
LGFLN-311H1-1-60-B01	Natural White	3800-5000	3.6	4	70	85	350
LGFLV-311H1-1-60-B01	Warm White	2670-3800	3.6	4	67.2	87.4	350

1W R,G,B POWER LIGHT LED EMITTER (VIA 120°)

1W R,G,B POWER LIGHT LED STAR (VIA 120°)

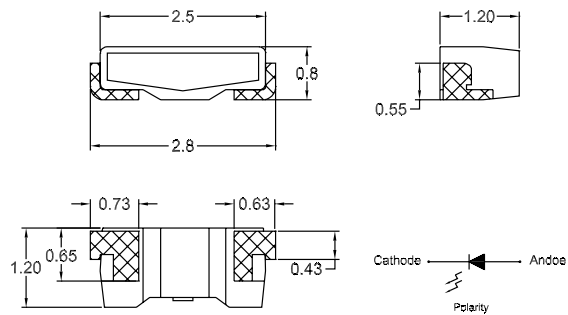
HIGH POWER LED



Part No	Emitting Color	λD (nm)	Vf(V)		Flux(lm)		IF(mA)
			Typ	Max	Min	Typ	
LGXRGB-501E-S1	Red	625	2.5	3.2	18.1	22	350
	True Green	525	3.6	4	30.6	44	350
	Blue	465	3.6	4	8.2	11.4	350

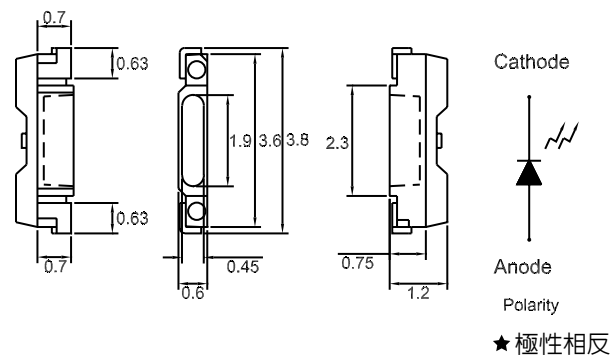
Part No	Emitting Color	λD (nm)	Vf(V)		Flux(lm)		IF(mA)
			Typ	Max	Min	Typ	
LGXRGB-501H-S1	Red	625	2.5	3.2	18.1	22	350
	True Green	525	3.6	4	30.6	44	350
	Blue	465	3.6	4	8.2	11.4	350

## PLCC Side View-008



Part No	Chip			Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2θ½
	Material	Emitted color	λD (nm)	Min	Max	Typ	
★ LG-008URFS-B01	AlGaInP	Red	625	1.7	2.6	700	115
LG-008DBK-CT-L1-A01	InGaN	Blue	470	2.8	3.6	260	115
LG-008DGM-A01	InGaN	Green	525	2.8	3.6	1000	115
LG-008WK-DT-N12-A01	InGaN	White	X0.299 Y0.296	2.8	3.6	1900	115
LG-008WK-WW-A01	InGaN	White	X0.5315 Y0.436	2.8	3.6	1800	115

## PLCC Side View-020

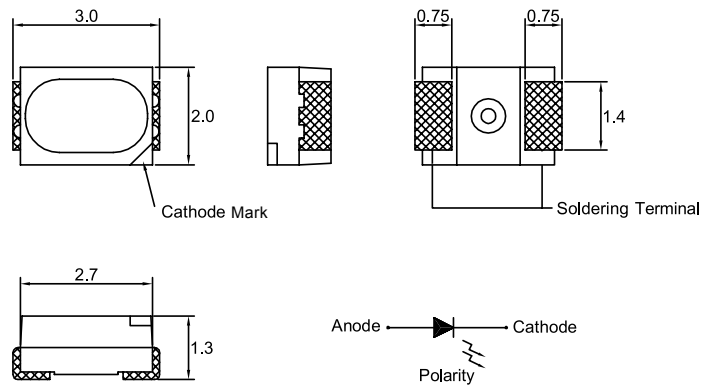


Part No	Chip			Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2θ½
	Material	Emitted color	λD (nm)	Min	Max	Typ	
★ LG-020URFS-B01	AlGaInP	Red	625	1.7	2.6	600	110
LG-020DBK-CT	InGaN	Blue	470	2.8	3.6	200	110
LG-020DGM-CT	InGaN	Green	525	2.8	3.6	700	110
LG-020WK-DT-L1-P-N12-A01	InGaN	White	X0.3005 Y0.2955	2.8	3.4	1500	110
LG-020WK-CW-A02	InGaN	Blue	X0.3032 Y0.3106	2.8	3.6	2400	110



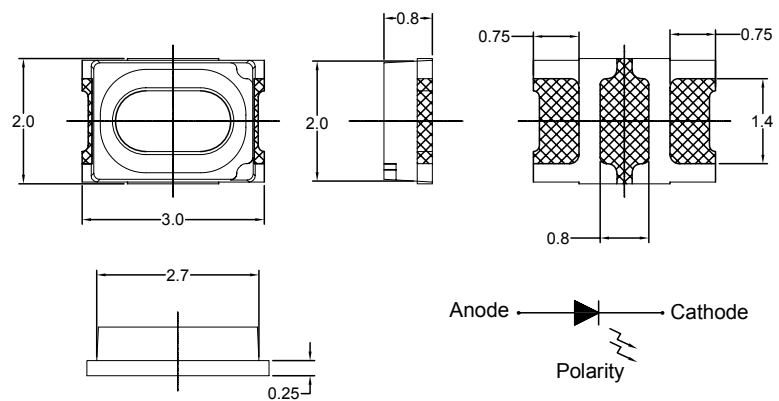


### PLCC Top View-3020



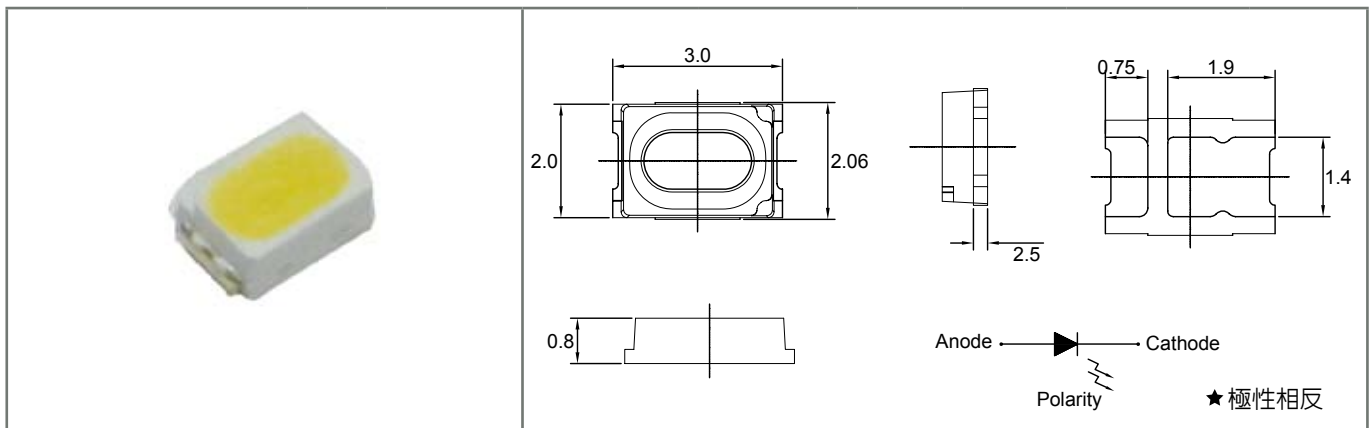
Part No	CRI	Chip			Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
	Min	Material	Emitted color	CCT(k)	Min	Max	Typ	
LWK9S53/TR1/A-CW-GP	70	InGaN	White	5000-6300	2.8	3.6	2600	120
LWK9S53/TR1/A-NW-D02	70	InGaN	Natural White	3800-4500	2.8	3.6	2600	120
LWK9S53/TR1/A-WW-A07	70	InGaN	Warm White	2850-3250	2.8	3.6	2500	120
LWK9S53/TR1/A-P-CW-D01	80	InGaN	White	5000-6300	2.8	3.6	2500	120
LWK9S53/TR1/A-NW-D01	80	InGaN	Natural White	3800-4500	2.8	3.6	2500	120
LWK9S53/TR1/A-WW-D02	80	InGaN	Warm White	2850-3250	2.8	3.6	2400	120

### PLCC Top View-3020 (0.2W)



Part No	CRI	Chip			Vf(V)@60mA		Iv(lm)@60mA	Viewing angle 2Θ½
	Min	Material	Emitted color	CCT(k)	Min	Max	Typ	
LWK9S53-HS-T60-C-D702	70	InGaN	White	5310-6020	2.8	3.6	23	120
LWK9S53-HS-T60-N-D701	70	InGaN	Natural White	3710-4260	2.8	3.6	23	120
LWK9S53-HS-T60-W-D702	70	InGaN	Warm White	2870-3220	2.8	3.6	22	120
LWK9S53-HS-T60-C-D802	80	InGaN	White	5310-6020	2.8	3.6	22	120
LWK9S53-HS-T60-N-D801	80	InGaN	Natural White	3710-4260	2.8	3.6	22	120
LWK9S53-HS-T60-W-D802	80	InGaN	Warm White	2870-3220	2.8	3.6	21	120
Part No	CRI	Chip			Vf(V)@60mA		Iv(lm)@60mA	Viewing angle 2Θ½
	Min	Material	Emitted color	Chromaticity Coordinates (Typ.)	Min	Max	Typ	
79-LWKG9S53-HS-T60-A01	-	InGaN	Pink White	X : 0.3322 Y : 0.3349	2.8	3.6	21	120

### PLCC Top View-3020 (0.5W)



Part No	CRI	Chip			Vf(V)@150mA		Iv(lm)@150mA	Viewing angle 2θ½
	Min	Material	Emitted color	CCT(k)	Min	Max	Typ	
LWK9S53-HC-T150-C-D702	70	InGaN	White	5310-6020	2.8	3.8	65	120
LWK9S53-HC-T150-N-D701	70	InGaN	Natural White	3710-4260	2.8	3.8	65	120
LWK9S53-HC-T150-W-D702	70	InGaN	Warm White	2870-3220	2.8	3.8	60	120
LWK9S53-HC-T150-C-D802	80	InGaN	White	5310-6020	2.8	3.8	60	120
LWK9S53-HC-T150-N-D801	80	InGaN	Natural White	3710-4260	2.8	3.8	60	120
LWK9S53-HC-T150-W-D802	80	InGaN	Warm White	2870-3220	2.8	3.8	55	120

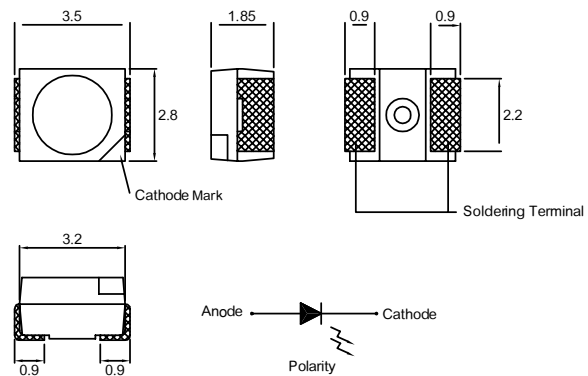
### PLCC Top View-3020

Part No	Chip			Vf(V)@60mA		Iv(mcd)@60mA	Viewing angle 2θ½
	Material	Emitted color	λD (nm)	Min	Max	Typ	
★LUY9S53R-HC-T60	AlGaInP	Yellow	590	1.7	2.6	1600	120
★LURF9S53S-HC-T60	AlGaInP	Red	625	1.7	2.6	1250	120
LUY9S53-HC-T60-A01	AlGaInP	Yellow	587	1.7	2.6	3600	120
LUEL9S53-HC-T60-A01	AlGaInP	Orange	625	1.7	2.6	2800	120

### PLCC Top View-3020

Part No	Chip			Vf(V)@150mA		Iv(mcd)@150mA	Viewing angle 2θ½
	Material	Emitted color	λD (nm)	Min	Max	Typ	
★LUY9S53R-HC-T150	AlGaInP	Yellow	590	2	3	3200	120
★LURF9S53S-HC-T150	AlGaInP	Red	625	2	3	4000	120
LDBK9S53-HC-T150	InGaN	Blue	450	2.8	3.8	1900	120
LDGM9S53-HC-T150	InGaN	Green	525	2.8	3.8	9000	120

PLCC2 3528

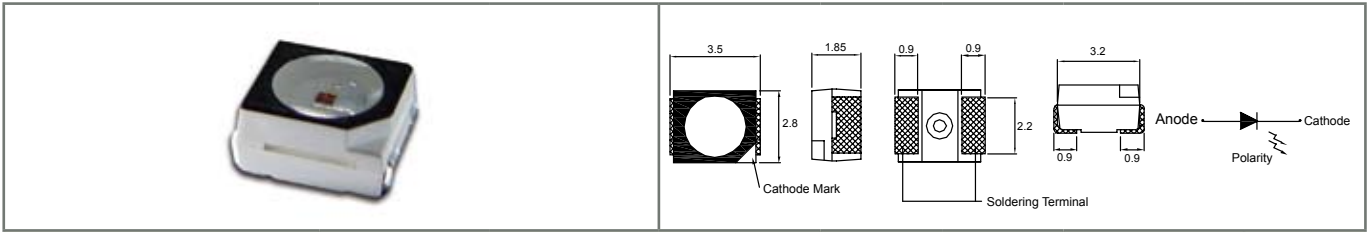


SMD LED

Part No	Chip			Vf(V)@20mA		lv(mcd)@20mA	Viewing angle 2Θ½
	Material	Emitted color	λD (nm)	Min	Max	Typ	
LSEF9553/TR1	AlGaInP	Orange	605	1.7	2.6	250	120
LHRF9553/TR1	AlGaInP	Red	630	1.5	2.4	125	120
LUR9553H/TR1	AlGaInP/GaP	Red	630	1.7	2.6	550	120
L9UG9553/TR1	AlGaInP	Green	574	1.7	2.6	50	120
LHY9553/TR1	AlGaInP	Yellow	595	1.7	2.6	200	120
LUY9553/TR1	AlGaInP	Yellow	595	1.7	2.6	320	120
LUY9553H/TR1	AlGaInP/GaP	Yellow	590	1.7	2.6	450	120
LDGM9553/TR1	InGaN	True Green	525	2.8	3.6	1250	120
LDBK9553/TR1	InGaN	Blue	470	2.8	3.6	320	120

Part No	CRI	Chip			Vf(V)@20mA		lv(mcd)@20mA	Viewing angle 2Θ½
	Min	Material	Emitted color	CCT(k)	Min	Max	Typ	
LWK9553/TR1/A-CW-D01	70	InGaN	White	5000-6300	2.8	3.6	2600	120
LWK9553/TR1/A-NW-D01	70	InGaN	Natural White	3800-4500	2.8	3.6	2600	120
LWK9553/TR1/A-WW-D03	70	InGaN	Warm White	2850-3250	2.8	3.6	2500	120
LWK9553/TR1/A-P-CW-D02	80	InGaN	White	5000-6300	2.8	3.6	2500	120
LWK9553/TR1/A-P-NW-D02	80	InGaN	Natural White	3800-4500	2.8	3.6	2500	120
LWK9553/TR1/A-WW-D02	80	InGaN	Warm White	2850-3250	2.8	3.6	2400	120

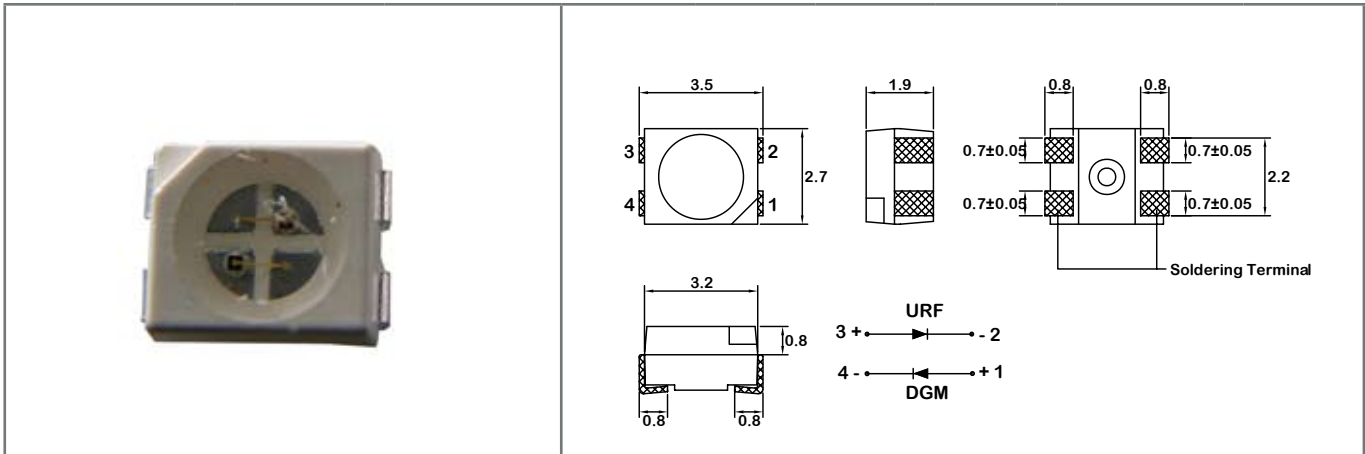
**PLCC2 3528 Black Surface**



Part No	Chip			Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2θ½
	Material	Emitted color	λD (nm)	Min	Max	Typ	
LUES9553-SB/TR1-B01	AlGaInP	Orange	615	1.7	2.6	900	120
LUYS9553-SB/TR1-B01	AlGaInP	Yellow	587	1.7	2.6	900	120

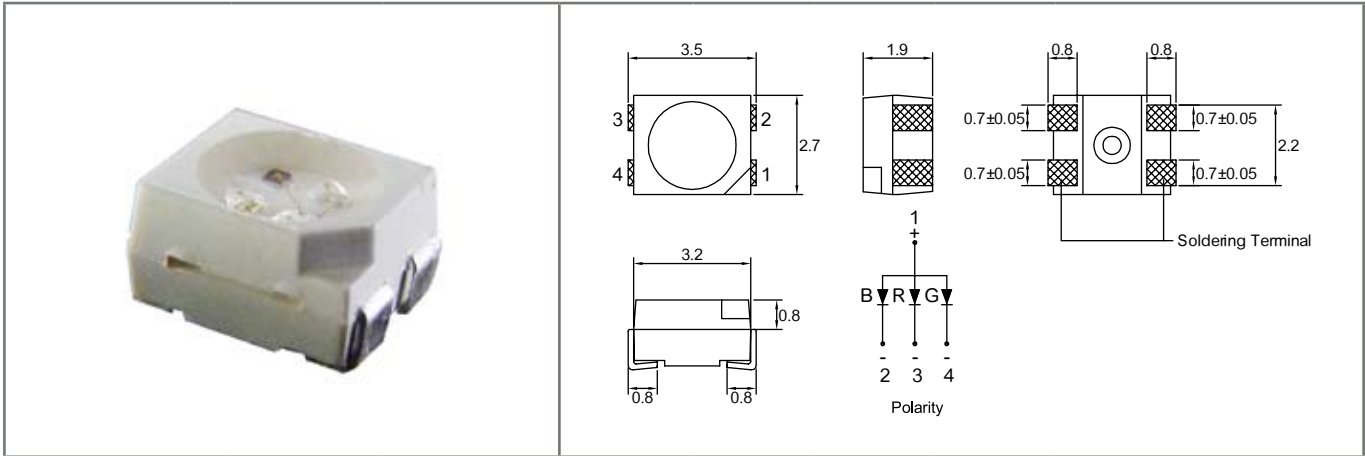
**SMD LED**

PLCC4 Dual Color-3527



Part No	Material	Color		$\lambda D(nm)$	Vf(V)@20mA		lv(mcd)@20mA	Viewing angle $2\theta_{1/2}$
		Emitted	Lens		Min	Max	Typ	
LHRF9UG9553/TR1	AlGaInP	Red	Water Clear	630	1.5	2.4	80	120
	AlGaInP	Green		574	1.7	2.6	80	
LHRFVY9553/TR1	AlGaInP	Red	Water Clear	630	1.5	2.4	80	120
	AlGaInP	Yellow		590	1.7	2.6	125	
LURFDGM9553/TR1	AlGaInP	Red	Water Clear	630	1.5	2.4	125	120
	InGaN	True Green		525	2.8	3.6	800	
LHRFDBK9553/TR1	AlGaInP	Red	Water Clear	630	1.5	2.4	80	120
	InGaN	Blue		470	2.8	3.6	200	

**PLCC4 MULTI-COLOR 3527**

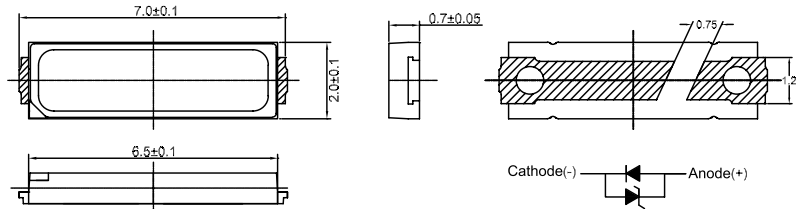


**SMD LED**

Part No	Material	Color		$\lambda D(nm)$	$V_f(V)@20mA$		$I_v(mcd)@20mA$	Viewing angle $2\theta_{1/2}$
		Emitted color	Lens		Min	Max	Typ	
LRGB9553-5/TR1	AlGaInP	Red	Water Clear	630	1.5	2.4	150	120
	InGaN	True Green		525	2.8	3.6	1000	120
	InGaN	Blue		470	2.8	3.6	320	120

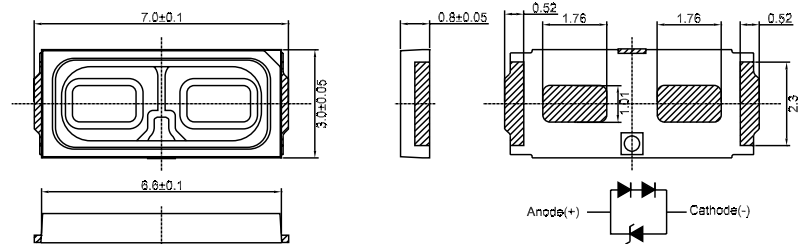
**SMD LED**

PLCC2 7020



Part No	CRI	Chip			Vf(V)@120mA		Iv(lm)@120mA	Viewing angle 2Θ½
	Min	Material	Emitted color	Chromaticity Coordinates (Typ.)	Min	Max	Typ	
LG-7020WKZ-1-P-A02	---	InGaN	White	X:0.2714 Y:0.2502	2.8	3.6	42	120

PLCC2 7030

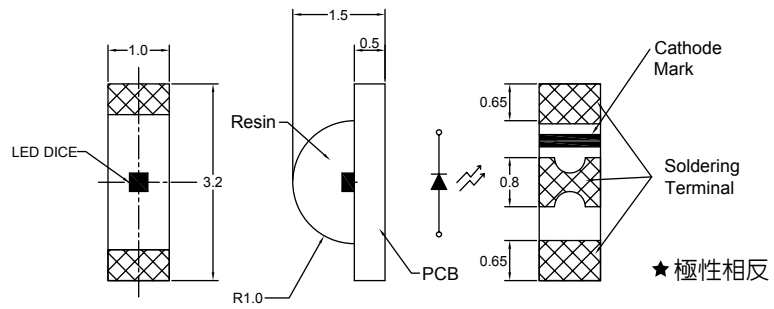


Part No	CRI	Chip			Vf(V)@140mA		Iv(lm)@140mA	Viewing angle 2Θ½
	Min	Material	Emitted color	Chromaticity Coordinates (Typ.)	Min	Max	Typ	
LG-7030WKZ-T140-P-A01	---	InGaN	White	X:0.2446 Y:0.2638	5.6	7.6	90	120

SMD LED

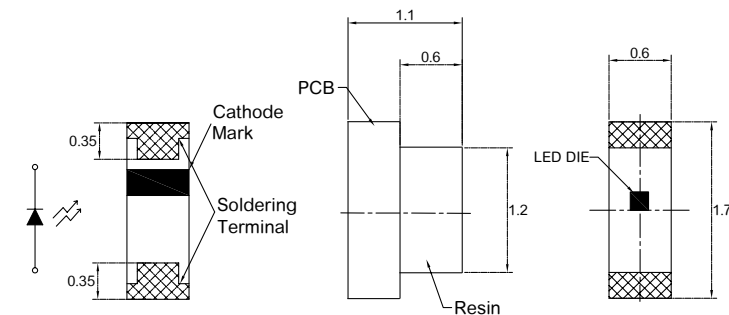


### Side View 1204




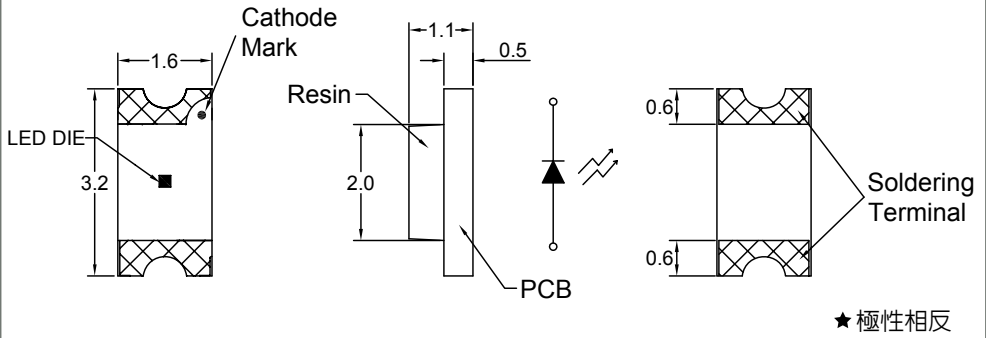
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2θ½
		Emitted	λD(nm)	Min	Max	Typ	
★LG-110SR-CT	GaAlAs	Red	643	1.5	2.4	15	120
LG-110HRF-CT	AlGaInP	Red	630	1.5	2.4	60	120
LG-110-9SEF-CT	AlGaInP	Orange	605	1.7	2.6	150	120
LG-110G-CT	GaP	Green	573	1.7	2.6	10	120
LG-110UG-CT	AlGaInP	Green	574	1.7	2.6	45	120
LG-110Y-CT	GaAsP/GaP	Yellow	588	1.7	2.6	6	120
LG-110HY-CT	AlGaInP	Yellow	595	1.7	2.6	80	120
LG110DGM-CT	InGaN	True Green	525	2.8	3.6	150	120
LG-110DBK-CT	InGaN	Blue	470	2.8	3.6	60	120
LG-110WK-DT	InGaN	White	X0.35 Y0.40	2.8	3.6	350	120

### Side View 0603


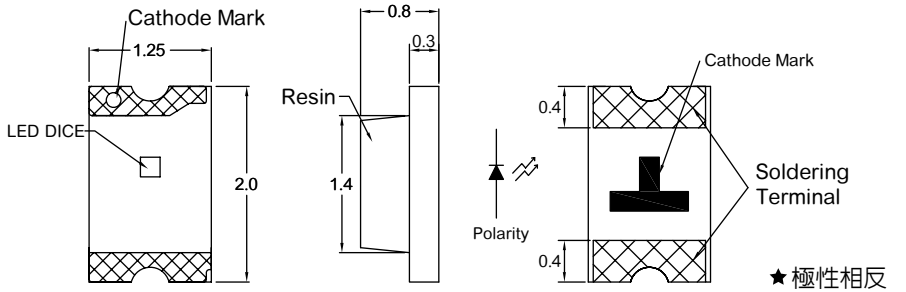


Part No	Material	Color		Vf(V)@20mA *@5mA		Iv(mcd)@20mA *@5mA	Viewing angle 2θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-111HRF-CT	AlGaInP	Red	639	1.7	2.4	39	130
LG-111SEF-CT	AlGaInP	Orange	607	1.75	2.35	50	130
LG-111DGM-CT	InGaN	Green	528	2.7	3.7	200	130
LG-111-9UG-CT	AlGaInP	Green	572	1.75	2.35	32	130
LG-111VY-CT	AlGaInP	Yellow	590	1.7	2.3	80	130
LG-111HY-CT	AlGaInP	Yellow	595	1.7	2.6	80	130
LG-111DBK-CT	InGaN	Blue	470	2.7	3.7	50	130
LG-111WK-DT-J	InGaN	white	X0.294 Y0.287	*2.5	*3.2	*50	140

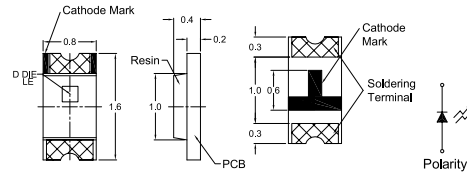
## TOP View 1206

							
		★極性相反					
Part No	Material	Color		Vf(V)@20mA		lv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
★LG-150-8SR-CT	GaAlAs	Red	643	1.5	2.4	25	140
LG-150-HRF-CT-08	AlGaInP	Red	630	1.5	2.4	80	140
LG-150-8SEF-CT	AlGaInP	Orange	605	1.7	2.6	150	140
LG-150G-CT	GaP	Green	573	1.7	2.6	12.5	140
LG-150-UG-CT-08	AlGaInP	Green	574	1.7	2.6	40	140
LG-150Y-CT	GaAsP/GaP	Yellow	588	1.7	2.6	6	140
LG-150-HY-CT-08	AlGaInP	Yellow	595	1.7	2.6	80	140
LG-150DGM-CT	InGaN	True Green	525	2.8	3.6	320	140
LG-150DBK-CT	InGaN	Blue	470	2.8	3.6	100	140
LG-150WK-DT	InGaN	White	X0.35 Y0.40	2.8	3.6	320	140

## TOP View 0805

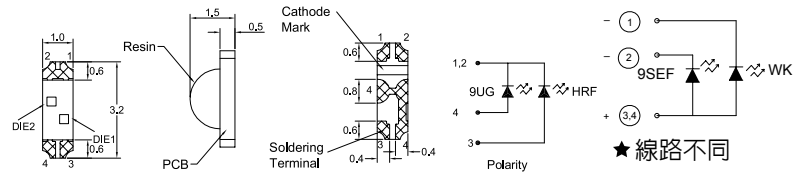
							
		★極性相反					
Part No	Material	Color		Vf(V)@20mA		lv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
★LG-170SR-CT	GaAlAs	Red	643	1.5	2.4	25	140
LG-170HRF-CT	AlGaInP	Red	630	1.5	2.4	80	140
LG-170-8SEF-CT	AlGaInP	Orange	605	1.7	2.6	150	140
LG-170G-CT	GaP	Green	573	1.7	2.6	10	140
LG-170-8UG-CT	AlGaInP	Green	574	1.7	2.6	45	140
LG-170Y-CT	GaAsP/GaP	Yellow	588	1.7	2.6	8	140
LG-170HY-CT	AlGaInP	Yellow	595	1.7	2.6	80	140
LG-170DGM-CT	InGaN	True Green	525	2.8	3.6	250	140
LG-170DBK-DT	InGaN	Blue	470	2.8	3.6	150	140
LG-170WK-DT	InGaN	White	X0.35 Y0.39	2.8	3.6	200	140

### Top View 0630



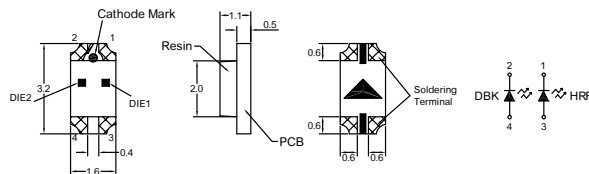
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-192HRF-CT	AlGaInP	Red	630	1.5	2.4	80	130
LG-192-9SEF-CT	AlGaInP	Orange	605	1.7	2.6	100	130
LG-192G-CT	GaP	Green	573	1.7	2.6	10	130
LG-192-9UG-CT	AlGaInP	Green	574	1.7	2.6	32	130
LG-192Y-CT	GaAsp/GaP	Yellow	588	1.7	2.6	5	130
LG-192HY-CT	AlGaInP	Yellow	595	1.7	2.6	100	130
LG-192DGM-CT	InGaN	True Green	525	2.8	3.6	500	130
LG-192DBK-CT	InGaN	Blue	470	2.8	3.6	125	130
LG192WK-DT	InGaN	White	X0.35 Y0.40	2.8	3.6	500	130

### Side View 1204(Bi Color)




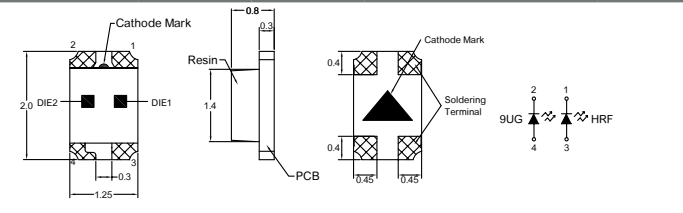
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-110HRF/9UG-CT	AlGaInP	Red	630	1.5	2.4	70	120
	AlGaInP	Green	574	1.7	2.6	40	
LG-110HRF/DBK-CT	AlGaInP	Red	630	1.5	2.4	70	120
	InGaN	Blue	470	2.8	3.6	50	
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
★LG-110WK/9SEF-A-DT-A01	InGaN	White	x:0.285 y:0.275	2.8	3.6	350	120
	AlGaInP	Orange	605	1.7	2.6	150	
★LG-110WK/VY-A-DT-A01	InGaN	White	x:0.285 y:0.283	2.8	3.6	350	120
	AlGaInP	Yellow	590	1.7	2.6	80	

### Top View 1206 (Bi Color)




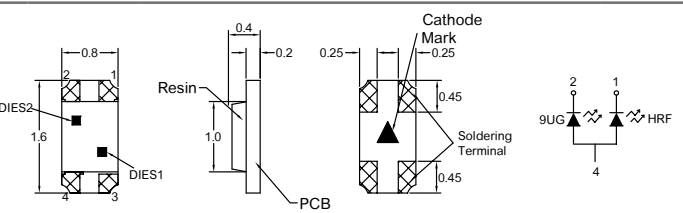
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-150HRF/9UG-CT	AlGaInP	Red	630	1.5	2.4	60	140
	AlGaInP	Green	574	1.7	2.6	40	
LG-150HRF/DBK-CT	AlGaInP	Red	630	1.5	2.4	40	140
	InGaN	Blue	470	2.8	3.6	60	
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-150-8SEF/WK-DT-A02	AlGaInP	Orange	605	1.7	2.6	125	140
	InGaN	White	x:0.285 y:0.283	2.8	3.6	350	

Top View 0805 (Bi Color)


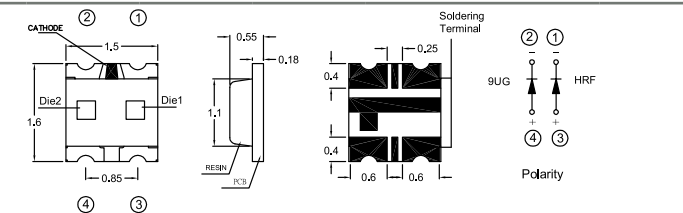
							
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-170HRF/9UG-CT	AlGaInP	Red	630	1.5	2.4	60	140
	AlGaInP	Green	574	1.7	2.6	50	
LG-170HRF/DBK-CT	AlGaInP	Red	630	1.5	2.4	60	140
	InGaN	Blue	470	2.8	3.6	60	
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-170HRF/WK-DT-A01	AlGaInP	Red	630	1.5	2.4	50	140
	InGaN	White	X:0.335 Y:0.3575	2.8	3.6	350	

SMD LED

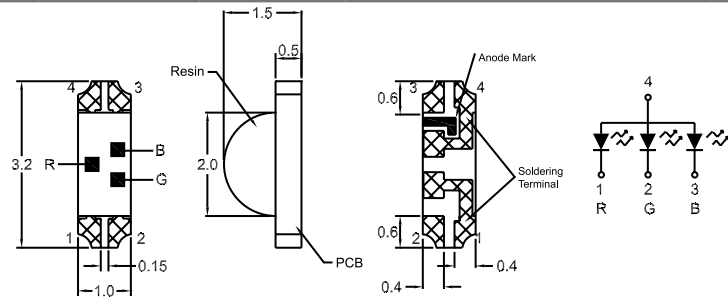
Top View 0630 (Bi Color)

							
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-192HRF/9UG-CT	AlGaInP	Red	630	1.5	2.4	80	130
	AlGaInP	Green	574	1.7	2.6	50	
LG-192DBK/HRF-CT	AlGaInP	Red	630	1.5	2.4	50	130
	InGaN	Blue	470	2.8	3.6	32	
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-192HRF/WK-SR-DT-A01	AlGaInP	Red	630	1.5	2.4	50	130
	InGaN	White	X:0.285 Y:0.2825	2.8	3.4	500	

Top View 0605 (Bi Color)

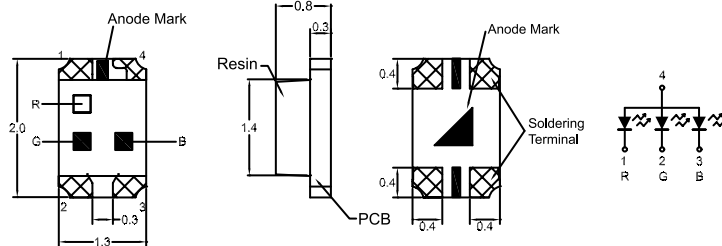
							
Part No	Material	Color		Vf(V)@20mA		Iv(mcd)@20mA	Viewing angle 2Θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-195HRF/9UG-CT	AlGaInP	Red	630	1.5	2.4	125	130
	AlGaInP	Green	574	1.7	2.6	50	
LG-195HRF/DBK-CT	AlGaInP	Red	630	1.5	2.4	125	130
	InGaN	Blue	470	2.8	3.6	125	

### Side View 1204(Full Color)



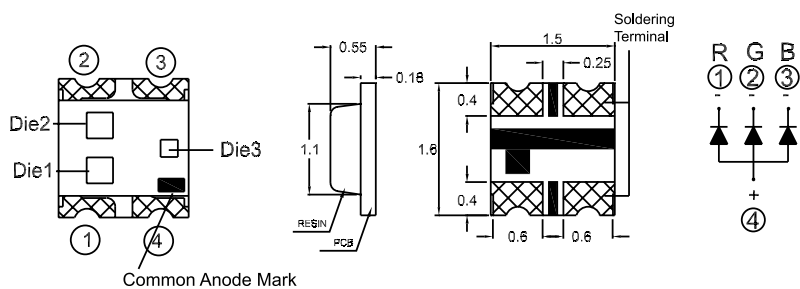
Part No	Material	Color		Vf(V)@20mA		lv(mcd)@20mA	Viewing angle 2θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-110RGB-CT	AlGaInP	Red	630	1.5	2.4	150	120
	InGaN	TrueGreen	525	2.8	3.6	550	
	InGaN	Blue	470	2.8	3.6	150	

### Top View 0805(Full Color)



Part No	Material	Color		Vf(V)@20mA		lv(mcd)@20mA	Viewing angle 2θ½
		Emitted	λD(nm)	Min	Max	Typ	
LG-170RGB-CT	AlGaInP	Red	630	1.5	2.4	100	140
	InGaN	TrueGreen	525	2.8	3.6	250	
	InGaN	Blue	470	2.8	3.6	80	

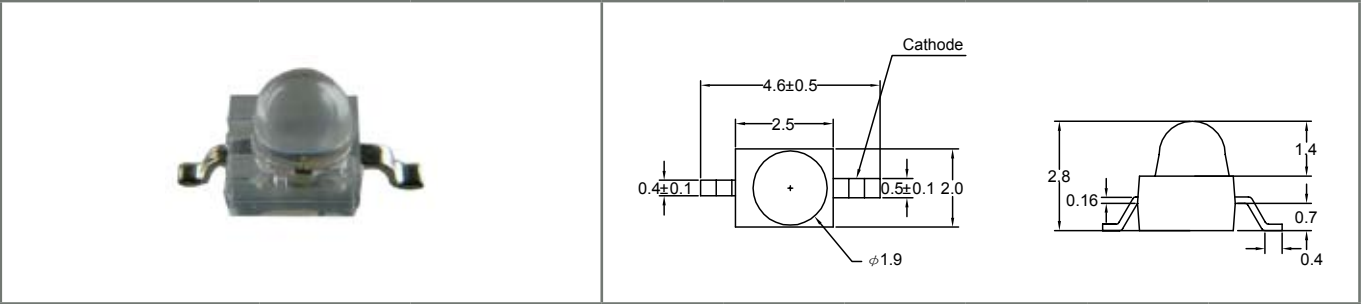
### Top View 0605(Full Color)



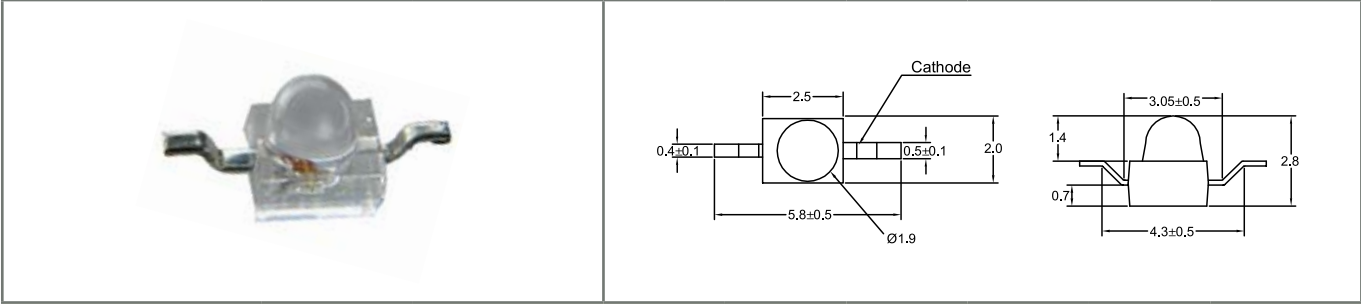
Part No	Material	Color		Vf(V)@20mA		lv(mcd)@20mA		Viewing angle 2θ½
		Emitted	λD(nm)	Min	Max	Min	Max	
LG-197RGB-CT-2-A01	AlGaInP	Red	625	1.7	2.6	80	200	140
	InGaN	TrueGreen	525	2.8	3.6	125	800	
	InGaN	Blue	470	2.8	3.6	100	300	

**LEAD FRAME**

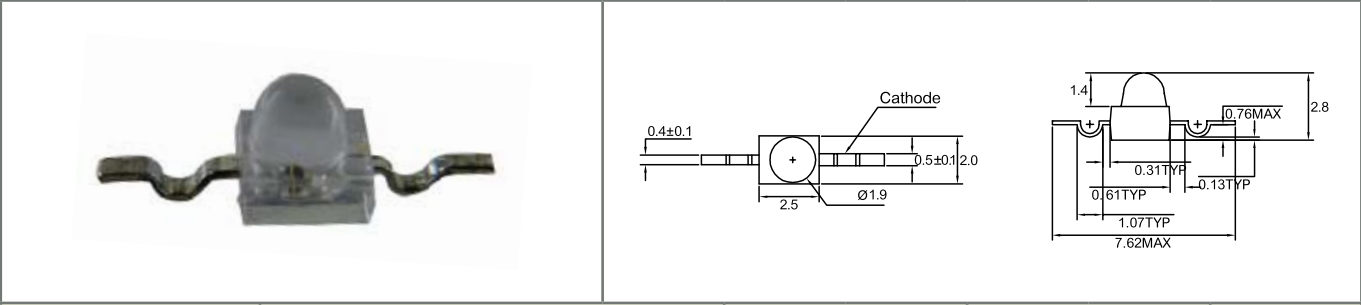
**SMD LED**



Part No	Chip			Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2Θ½
	Material	Emitted color	λD(nm)	Min	Max	Min	Typ	
L8UG9033/TR1	AlGaInP	Green	574	1.7	2.6	300	450	20
LHRF9033/TR1	AlGaInP	Red	630	1.5	2.4	160	300	20
L9SEF9033/TR1	AlGaInP	Orange	605	1.7	2.6	900	1500	20
LHY9033/TR1	AlGaInP	Yellow	595	1.7	2.6	160	260	20
LDBK9033/TR1	InGaN	Blue	470	2.8	4.0	160	300	20



Part No	Chip			Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2Θ½
	Material	Emitted color	λD(nm)	Min	Max	Min	Typ	
L8UG9033/TR2	AlGaInP	Green	574	1.7	2.6	300	450	20
LHRF9033/TR2	AlGaInP	Red	630	1.5	2.4	160	300	20
L9SEF9033/TR2	AlGaInP	Orange	605	1.7	2.6	900	1500	20
LHY9033/TR2	AlGaInP	Yellow	595	1.7	2.6	160	260	20
LDBK9033/TR2	InGaN	Blue	470	2.8	4.0	160	300	20



Part No	Chip			Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2Θ½
	Material	Emitted color	λD(nm)	Min	Max	Min	Typ	
LHRF9033/TR3	AlGaInP	Red	630	1.5	2.4	160	650	20
LVE9033/TR3	AlGaInP	Yellow	590	1.7	2.6	220	450	20
L8UG9033/TR3	AlGaInP	Green	574	1.7	2.6	300	450	20
LDBK9033/TR3	InGaN	Blue	470	2.8	4.0	160	300	20



**LED LAMP**

Part No	Chip			Lens color	Vf(V)@20mA		Vf(V)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LI11240	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	12	30	50
LG11240	GaP	Green	565	Green Diffused	1.7	2.6	12	20	50
LY11240	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	20	45	50

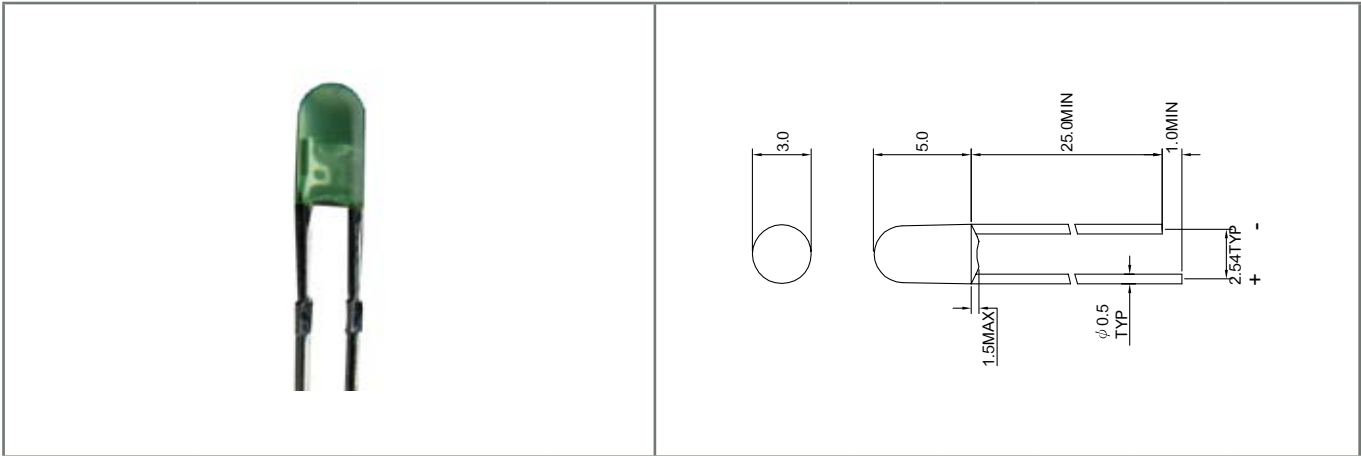
Part No	Chip			Lens color	Vf(V)@20mA		Vf(V)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LSE21441	GaAsP/GaP	Orange	610	Orange Transparent	1.7	2.6	8.0	20	20
LG21441	GaP	Green	565	Green Transparent	1.7	2.6	15	24	20
LY21441	GaAsP/GaP	Yellow	585	Yellow Transparent	1.7	2.6	20	38	20

Part No	Chip			Lens color	Vf(V)@20mA		Vf(V)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LG2040	GaP	Green	565	Green Diffused	1.7	2.6	12	30	36
LG2041	GaP	Green	565	Green Transparent	1.7	2.6	30	65	30
LG2043	GaP	Green	565	Water Clear	1.7	2.6	30	65	30
LY2041	GaAsP/GaP	Yellow	585	Yellow Transparent	1.7	2.6	12	30	30
LY2043	GaAsP/GaP	Yellow	585	Water Clear	1.7	2.6	12	30	30

**LED LAMP**

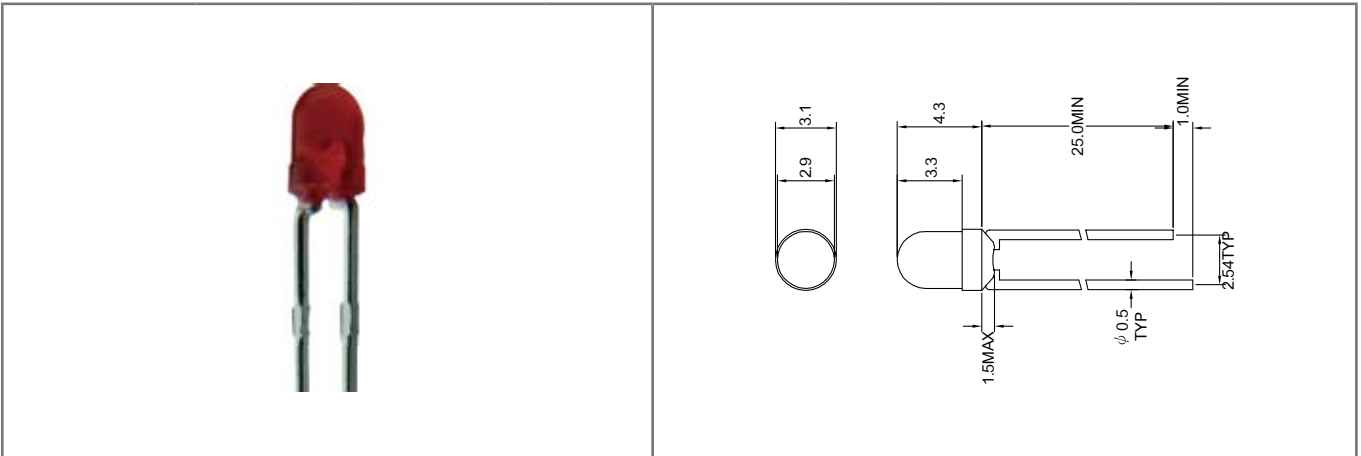


**LED LAMP**




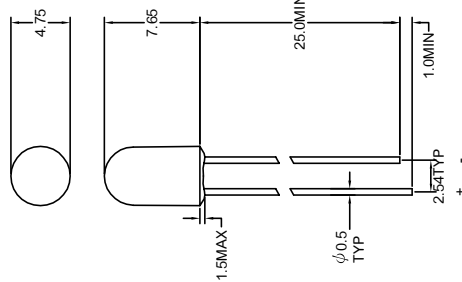
Part No	Chip			Lens color	Vf(V)@20mA		Vf(V)@10mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LI2340	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	8	20	80
LG2340	GaP	Green	565	Green Diffused	1.7	2.6	8	20	80
LY2340	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	20	80

**LED LAMP**


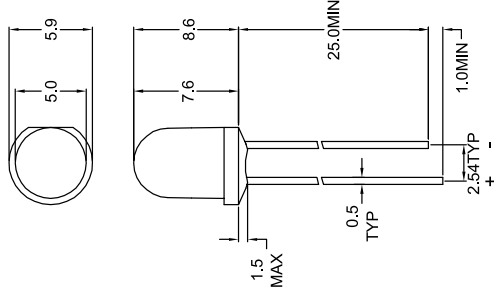



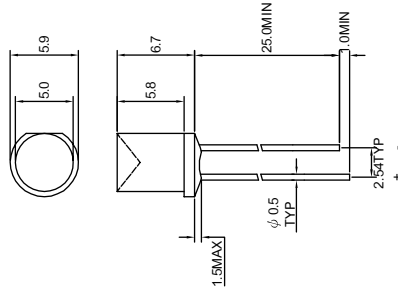
Part No	Chip			Lens color	Vf(V)@20mA		Vf(V)@10mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
L8SR2640-1	GaP	Red	660	Red Diffused	1.7	2.6	1.8	4.2	50
LI2640-1	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	8	12	50
LE2640-1	GaAsP/GaP	Orange Red	635	Orange Diffused	1.7	2.6	8	12	50
LG2640-1	GaP	Green	565	Green Diffused	1.7	2.6	12	20	50
LY2640-1	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	12	50

**LED LAMP**

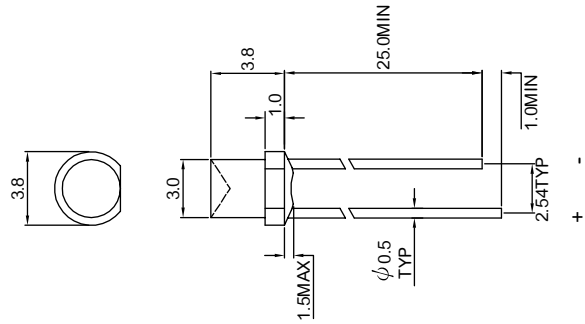
									
Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@10mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LI3130	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	12	30	46
LG3130	GaP	Green	565	Green Diffused	1.7	2.6	20	30	46
LY3130	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	20	30	46

**LED LAMP**

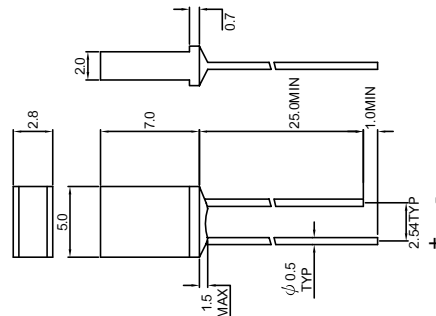
									
Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@10mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LI3330	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	12	24	28
LE3333	GaAsP/GaP	Orange Red	635	Water Clear	1.7	2.6	45	75	20
LG3330	GaP	Green	565	Green Diffused	1.7	2.6	20	30	28
LG3333	GaP	Green	565	Water Clear	1.7	2.6	65	150	20
LY3330	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	20	30	28
LY3333	GaAsP/GaP	Yellow	585	Water Clear	1.7	2.6	65	150	20

									
Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@10mA * @20mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LG4731	GaP	Green	565	Green Transparent	1.7	2.6	4.5	8.0	160
LHR4731	GaAlAs	Red	660	Red Transparent	1.5	2.4	* 28	* 50	160
LI4731	GaAsP/GaP	Orange Red	635	Red Transparent	1.7	2.6	3	5	160
LY4731	GaAsP/GaP	Yellow	585	Yellow Transparent	1.7	2.6	3.0	5.0	160

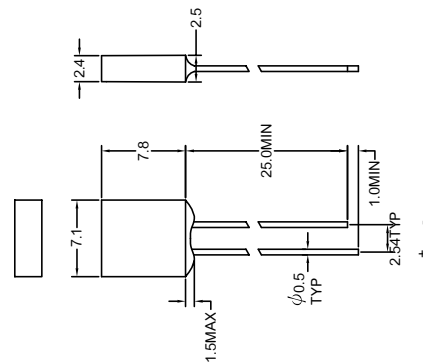
LED LAMP



Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LI4843	GaAsP/GaP	Orange Red	635	Water Clear	1.7	2.6	7.0	12	120
LG4843	GaP	Green	565	Water Clear	1.7	2.6	8	15	120
LY4843	GaAsP/GaP	Yellow	585	Water Clear	1.7	2.6	8	12	120


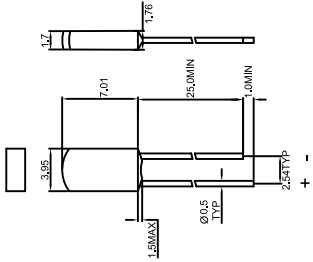



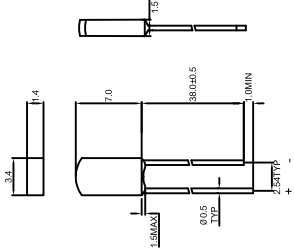
Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LI5130	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	3.0	8	88
LG5130	GaP	Green	565	Green Diffused	1.7	2.6	3.0	8	88
LY5130	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	3.0	4.5	88


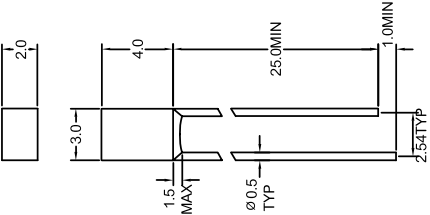



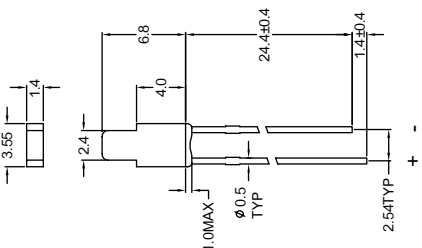
Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LI5730	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	4.5	8.0	144
LG5730	GaP	Green	565	Green Diffused	1.7	2.6	3.0	4.5	144
LY5730	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8.0	12	144

**LED LAMP**

									
Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LSE35140	GaAsP/GaP	Orange	610	Orange Diffused	1.7	2.6	4.5	8.0	42
LG35140	GaP	Green	565	Green Diffused	1.7	2.6	4.5	12	42
LY35140	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8.0	18	42

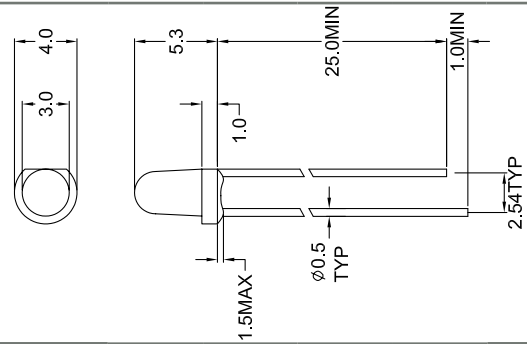
									
Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LSE45740	GaAsP/GaP	Orange	610	Red Diffused	1.7	2.6	1.8	4.5	42
LG45740	GaP	Green	565	Green Diffused	1.7	2.6	4.5	8	42
LY45740	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	4.5	12	42

									
Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LG55140	GaP	Green	565	Green Diffused	1.7	2.6	4.5	15	108
LY55140	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	4.5	15	108

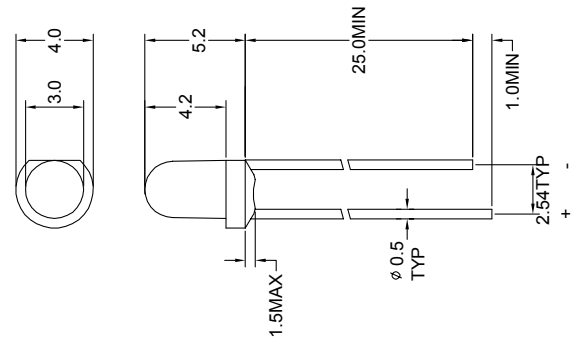
									
Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LSE27440	GaAsP/GaP	Orange	610	Orange Diffused	1.7	2.6	3.0	4.5	150
LG27440	GaP	Green	565	Green Diffused	1.7	2.6	4.5	8.5	150
LY27440	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8.0	16	150

**LED LAMP**

**SUPER BRIGHT LED**

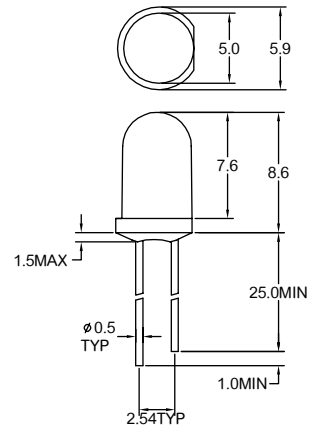


Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2Θ½
	Material	Emitted color	λD(nm) * λP(nm)		Min	Max	Min	Typ	
L8HRF12243	AlGaInP	Red	630	Water Clear	1.5	2.4	450	700	20
L8VG12243	GaP	Green	* 565	Water Clear	1.7	2.6	120	220	20
LHY12243	AlGaInP	Yellow	595	Water Clear	1.7	2.6	1100	2200	20
LUY12243	AlGaInP	Yellow	595	Water Clear	1.7	2.6	2700	5000	20



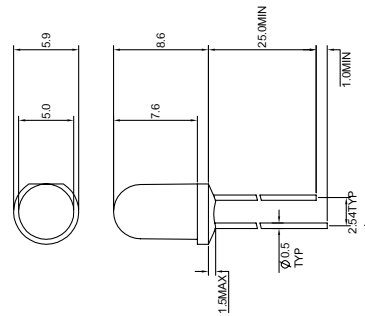
Part No	Chip			Lens color	Vf(V)@20mA		Vf(V)@20mA		Viewing angle 2Θ½
	Material	Emitted color	λD(nm) * λP(nm)		Min	Max	Min	Typ	
L8SR2040	GaAlAs	Red	660	Red Diffused	1.5	2.1	20	45	36
L8HRF2043	AlGaInP	Red	630	Water Clear	1.5	2.4	220	350	30
LURF2043	AlGaInP	Red	630	Water Clear	1.5	2.4	700	1100	30
L9UG20043	AlGaInP	Green	574	Water Clear	1.7	2.6	220	450	30
LHY2043	AlGaInP	Yellow	595	Water Clear	1.7	2.6	550	900	30
LUY2043	AlGaInP	Yellow	595	Water Clear	1.7	2.6	900	1500	30
LDGM2043	InGaN	True Green	525	Water Clear	2.8	4	1500	2700	30
LDUV2043	InGaN	Purple	* 400	Water Clear	3	4	90	160	30
LDBK2043	InGaN	Blue	470	Water Clear	2.8	4	900	1800	30
LWK2043	InGaN	White	X0.28 Y0.28	Water Clear	2.8	4	1800	3000	30

## SUPER BRIGHT LED

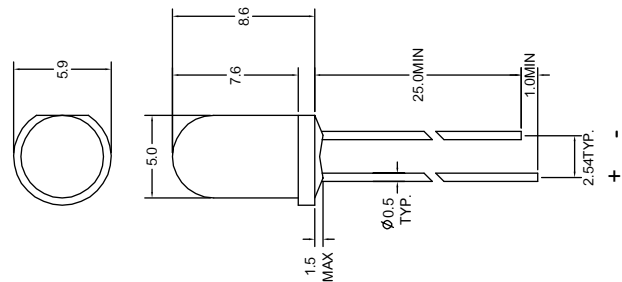


Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@20mA * @10mA		Viewing angle 2θ <sub>1/2</sub>
	Material	Emitted color	λD(nm) * λP(nm)		Min	Max	Min	Typ	
L8SR3333	GaAlAs	Red	* 660	Water Clear	1.5	2.1	120	* 220	20
L8SRF3333	AlGaInP	Red	630	Water Clear	1.5	2.4	450	700	20
LHRF3333	AlGaInP	Red	630	Water Clear	1.5	2.4	1500	3400	20
LURF3333	AlGaInP	Red	630	Water Clear	1.5	2.4	1800	4000	20
LURF3333S	AlGaInP	Red	625	Water Clear	1.7	2.6	9500	11500	20
LUR3333H-B01	AlGaInP/Gap	Red	630	Water Clear	1.7	2.6	7700	11500	17
LSE3333	GaAsP/GaP	Orange	* 610	Water Clear	1.7	2.6	65	150	20
L8SEF3333	AlGaInP	Orange	605	Water Clear	1.7	2.6	1100	1800	20
LUE3333	AlGaInP	Orange	620	Water Clear	1.7	2.6	1800	3400	20
LUES3333	AlGaInP	Orange	615	Water Clear	1.7	2.6	4000	6200	20
L8UG3333	AlGaInP	Green	574	Water Clear	1.7	2.6	700	1100	20
LHY3333	AlGaInP	Yellow	595	Water Clear	1.7	2.6	1100	2200	20
LUY3333	AlGaInP	Yellow	595	Water Clear	1.7	2.6	2200	4000	20
LUY3333H	AlGaInP/Gap	Yellow	590	Water Clear	1.7	2.6	3400	6200	16
LDGM3333	InGaN	True Green	525	Water Clear	2.8	4	7700	14000	12
LDGL3333-B01	InGaN	Bluish Green	505	Water Clear	2.8	4	9500	11500	13
LDUV3333-B01	InGaN	Purple	400	Water Clear	3	4	350	450	20
LDBK3333	InGaN	Blue	470	Water Clear	2.8	4	2200	4000	13
LDBK3333-B01	InGaN	Blue	470	Water Clear	2.8	4	4000	9500	13
LDBK3333-B03	InGaN	Blue	470	Water Clear	2.8	4	7700	11500	13
LWK3333	InGaN	White	X0.28 Y0.28	Water Clear	2.8	4	7700	14000	16

**SUPER BRIGHT LED**

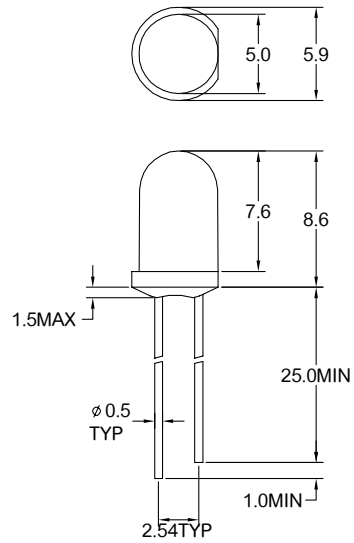


Part No	Chip			Water Clear	Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2θ½
	Material	Emitted color	λD(nm) * λP(nm)		Min	Max	Min	Typ	
LUR3333/S46	GaAlAs	Red	* 660	Water Clear	1.5	2.4	1100	1800	30
LHRF3333/S46	GaAlAs	Red	630	Water Clear	1.5	2.4	900	1500	30
LURF3333/S46	AlGaInP	Red	630	Water Clear	1.5	2.4	1500	2700	30
LUR3333H/S46	AlGaInP/GaP	Red	630	Water Clear	1.7	2.6	2700	5000	30
LUE3333/S46	AlGaInP	Orange	620	Water Clear	1.7	2.6	1500	2700	30
L8UG3333/S46	AlGaInP	Green	574	Water Clear	1.7	2.6	550	900	30
LHY3333/S46	AlGaInP	Yellow	595	Water Clear	1.7	2.6	1100	1800	30
LUY3333/S46	AlGaInP	Yellow	595	Water Clear	1.7	2.6	1100	2200	30
LUY3333H/S46	AlGaInP/GaP	Yellow	590	Water Clear	1.7	2.6	2200	4000	30
LDBK3333/H0	InGaN	Blue	470	Water Clear	2.8	4	1500	2700	30



Part No	Chip			Water Clear	Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2θ½
	Material	Emitted color	λD(nm) * λP(nm)		Min	Max	Min	Typ	
LSR3333/H0	GaAlAs	Red	* 660	Water Clear	1.5	2.4	160	300	38
LHR3333/H0	GaAlAs	Red	* 660	Water Clear	1.5	2.4	300	550	38
LUR3333/H0	GaAlAs	Red	* 660	Water Clear	1.5	2.4	900	1500	38
LURF3333/H0	AlGaInP	Red	630	Water Clear	1.5	2.4	1100	2200	38
LVG3333/H0	GapP	Green	* 565	Water Clear	1.7	2.6	160	300	38
L8UG3333/H0	AlGaInP	Green	574	Water Clear	1.7	2.6	350	700	38
LHY3333/H0	AlGaInP	Yellow	595	Water Clear	1.7	2.6	700	1500	38
LUY3333/H0	AlGaInP	Yellow	595	Water Clear	1.7	2.6	1100	1800	38

**SUPER BRIGHT LED**



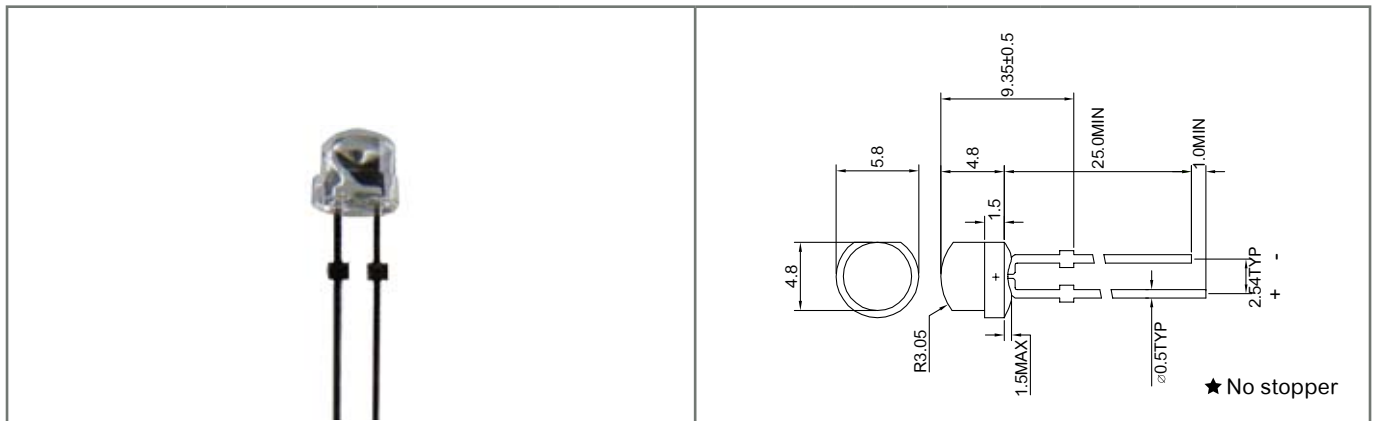
Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2θ½
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
LHRF13743	AlGaInP	Red	630	Water Clear	1.5	2.4	220	350	56
LUR13743H	AlGaInP/GaP	Red	630	Water Clear	1.7	2.6	1500	2700	56
L9UG13743	AlGaInP	Green	574	Water Clear	1.7	2.6	120	220	56
LHY13743	AlGaInP	Yellow	595	Water Clear	1.7	2.6	300	450	56
LUY13743	AlGaInP	Yellow	595	Water Clear	1.7	2.6	900	1800	56
LDGM13743	InGaN	True Green	525	Water Clear	2.8	4	900	1500	44
LDBK13743	InGaN	Blue	470	Water Clear	2.8	4	1100	1800	42
LWK13743-60-CW	InGaN	White	X0.34 Y0.34	Water Clear	2.8	4	2200	4000	60

**LED LAMP**

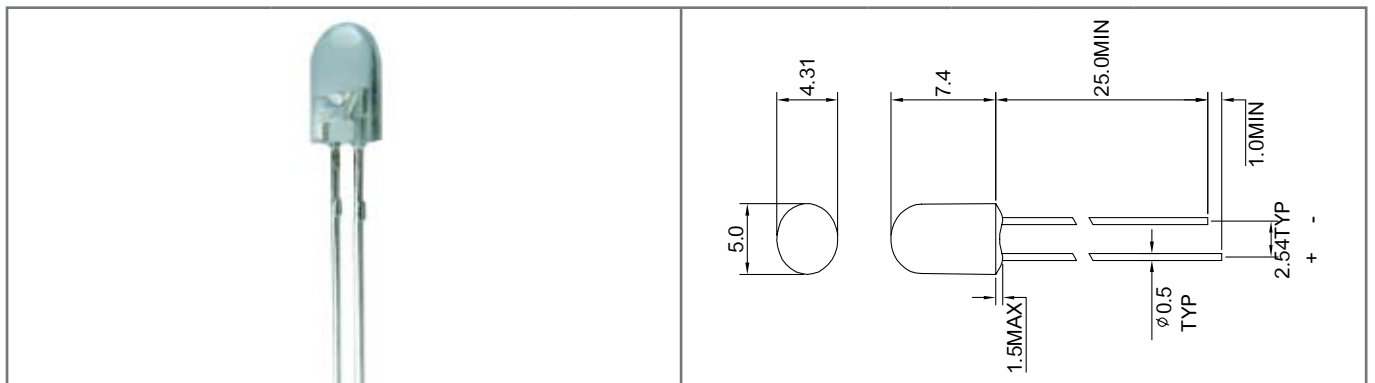


**OVAL TYPE**

**LED LAMP**

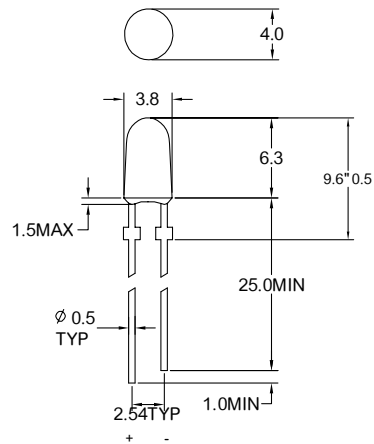


Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2θ <sub>1/2</sub>
	Material	Emitted color	Chromaticity Coordinates (Typ.)		Min	Max	Min	Typ	
LWK73133/P1	InGaN/GaN	White	X0.31 Y0.32	Water Clear	2.8	4.0	900	1500	120
★LWK73133/S3-WW	InGaN/GaN	Warm White	X0.42 Y0.40	Water Clear	2.8	4.0	900	1500	120
★LWK73143Z-A01	InGaN/GaN	White	X0.32 Y0.33	Water Clear	2.8	4.0	1500	2000	100

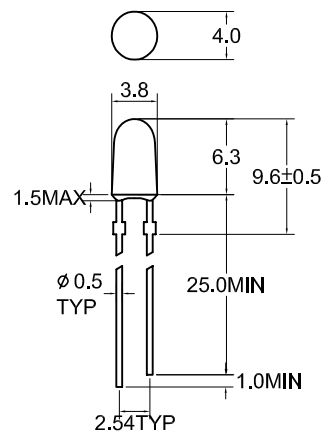


Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2θ <sub>1/2</sub>
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
LHRF13433	AlGaInP	Red	630	Water Clear	1.5	2.4	1500	3400	V20° /H40°
LURF13433	AlGaInP	Red	630	Water Clear	1.5	2.4	900	1800	V18° /H34°
LUR13430H/S19-PF-B01	AlGaInP/GaP	Red	630	Red Diffused	1.7	2.6	1100	1800	V36° /H62°
L9SEF13430-S12	AlGaInP	Orange	605	Orange Diffused	1.7	2.6	350	550	V36° /H62°
L8UG13433	AlGaInP	Green	574	Water Clear	1.7	2.6	450	700	V18° /H24°
LHY13433	AlGaInP	Yellow	595	Water Clear	1.7	2.6	1100	1800	V18° /H34°
LUY13433	AlGaInP	Yellow	595	Water Clear	1.7	2.6	1500	2700	V18° /H34°
LUY13430H/S16-PF-B01	AlGaInP/GaP	Yellow	590	Yellow Diffused	1.7	2.6	1200	1800	V36° /H62°
LDGM13430/S13-B01	InGaN	True Green	525	Green Diffused	2.8	4	1100	2200	V14° /H18°
LDBK13433	InGaN	Blue	470	Water Clear	2.8	4	3400	6200	V18° /H30°

**SUPER BRIGHT LED**



Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2θ <sub>1/2</sub>
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
LHRF22840/S8	AlGaInP	Red	630	Red Diffused	1.5	2.4	120	250	V120° /H80°
L9UG22840/S8	AlGaInP	Green	574	Green Diffused	1.7	2.6	50	90	V120° /H80°
LHY22840R/S8	AlGaInP	Yellow	595	Yellow Diffused	1.7	2.6	120	200	V120° /H80°
LDGM22840/S8	InGaN	True Green	525	Green Diffused	2.8	4	700	1300	V86° /H58°

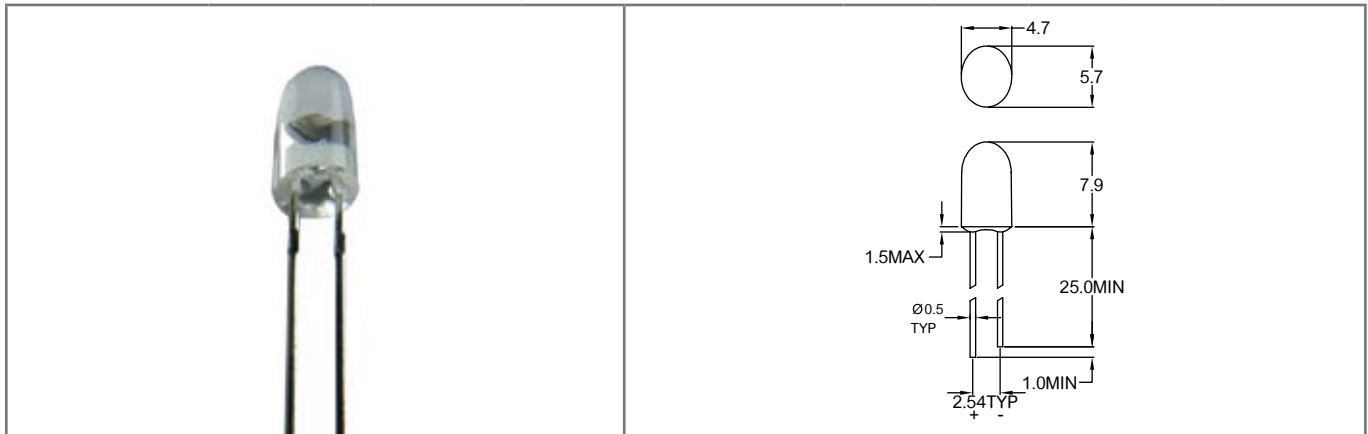


Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2θ <sub>1/2</sub>
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
LURF22841/S1	AlGaInP	Red	630	Red Transparent	1.5	2.4	90	160	V120°/H78°
LDGM22841/S1	InGaN	Green	525	Green Transparent	2.8	4.0	450	700	V100°/H54°
LDBK22841/S1	InGaN	Blue	470	Blue Transparent	2.8	4.0	50	90	V80°/H42°

LED LAMP

OVAL TYPE

LED LAMP

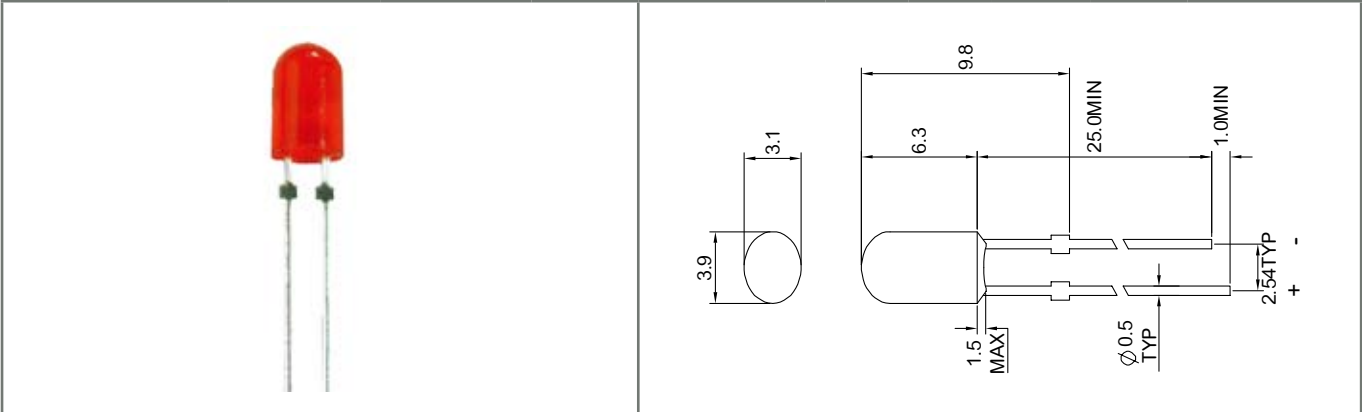


Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@20mA		Viewing angle 2θ½
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
LURF23531/P1	AlGaInP	Red	630	Red Transparent	1.5	2.4	450	700	V62°/H28°
LHRF23533	AlGaInP	Red	630	Water Clear	1.5	2.4	350	550	V62°/H28°
LUR23533H	AlGaInP/GaP	Red	630	Water Clear	1.7	2.6	2700	5000	V60°/H30°
LUE23533	AlGaInP	Orange	620	Water Clear	1.7	2.6	1100	1900	V62°/H28°
L9UG23531/P1	AlGaInP	Green	574	Green Transparent	1.7	2.6	300	450	V62°/H28°
LUG23533	AlGaInP	Green	574	Water Clear	1.7	2.6	350	700	V62°/H28°
LUY23533	AlGaInP	Yellow	595	Water Clear	1.7	2.6	700	1500	V62°/H28°
LUY23531H/P1	AlGaInP/GaP	Yellow	590	Yellow Transparent	1.7	2.6	1100	2200	V74°/H38°
LUYS23533	AlGaInP	Yellow	587	Water Clear	1.7	2.6	700	1500	V62°/H28°
LDGM23533/P1	InGaN	Green	525	Water Clear	2.8	4	4000	7700	V30°/H20°
LDBK23533	InGaN	Blue	470	Water Clear	2.8	4	900	1800	V46°/H20°



Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@20mA		Viewing angle 2θ½
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
LURF43740/S2	AlGaInP	Red	630	Red Diffused	1.5	2.4	450	700	V40°/H110°
LUR43740H/P1	AlGaInP/GaP	Red	630	Red Diffused	1.7	2.6	700	1100	V40°/H110°
LUY43740-S2	AlGaInP	Yellow	595	Yellow Diffused	1.7	2.6	550	1100	V40°/H110°
LDGM43740/S2	InGaN	True Green	525	Green Diffused	2.8	4	1100	1500	V32°/H90°
LDBK43740/P1	InGaN	Blue	470	Blue Diffused	2.8	4	350	550	V40°/H110°

**OVAL TYPE**



Part No	Chip			Lens color	Vf(V)@20mA		Iv(mcd)@20mA		Viewing angle 2Θ½
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
LURF32840/S4	AlGaInP	Red	630	Red Diffused	1.5	2.4	350	600	V74°/H110°
LUR32840H/S4	AlGaInP/GaP	Red	630	Red Diffused	1.7	2.6	700	1100	V74°/H110°
LDGM32840/S4	InGaN	True Green	525	Green Diffused	2.8	4.0	900	1500	V60°/H110°
LDBK32840/S4	InGaN	Blue	470	Blue Diffused	2.8	4	350	550	V60°/H100°

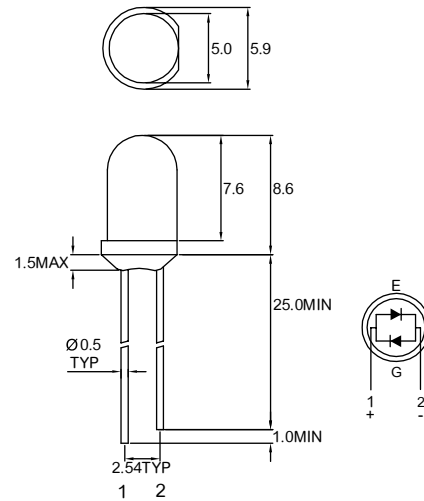
**LED LAMP**

**SPECIAL LED LAMP BI-COLOR**



Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LEG2062	GaAsP/GaP	Orange Red	635	White Diffused	1.7	2.6	4.5	8	70
	GaP	Green	565		1.7	2.6	3	5	70
LYG2062	GaAsP/GaP	Yellow	585	White Diffused	1.7	2.6	8	12	70
	GaP	Green	565		1.7	2.6	3	5	70

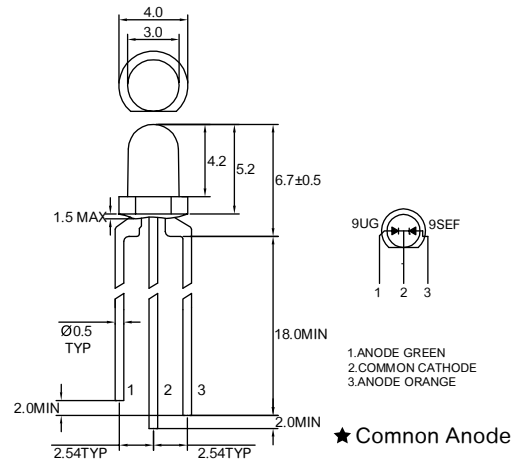
**SPECIAL LED LAMP BI-COLOR**



**LED LAMP**

Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@10mA		Viewing angle 2θ <sub>1/2</sub>
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LEG3362	GaAsP/GaP	Orange Red	635	White Diffused	1.7	2.6	4.5	7.5	30
	GaP	Green	565		1.7	2.6	4.5	8	30
LYG3362	GaAsP/GaP	Yellow	585	White Diffused	1.7	2.6	4.5	7	30
	GaP	Green	565		1.7	2.6	4.5	8	30
Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@20mA		Viewing angle 2θ <sub>1/2</sub>
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
L8HRF8UG3362	AlGaInP	Red	630	White Diffused	1.5	2.4	160	300	38
	AlGaInP	Super Green	574		1.7	2.6	50	90	38
L9SEF9UG3362	AlGaInP	Orange	605	White Diffused	1.7	2.6	450	700	38
	AlGaInP	Super Green	574		1.7	2.6	65	120	38

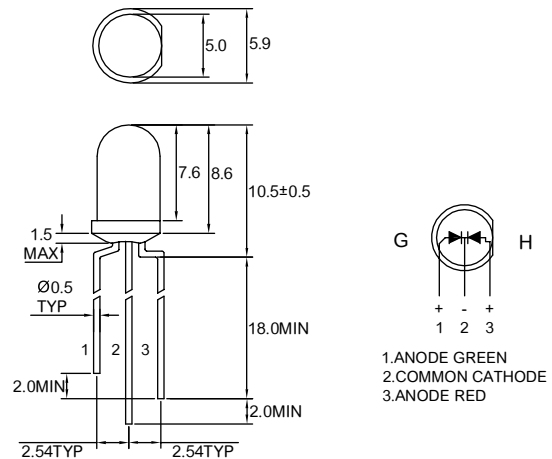
**SPECIAL LED LAMP MULTI - COLOR**



Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@10mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
L8E8G42292	GaAsP/GaP	Orange Red	635	White Diffused	1.7	2.1	4.5	8	60
	GaP	Green	565		1.7	2.1	8	12	
★ L8E8G42292/R1	GaP	Orange Red	635	White Diffused	1.7	2.1	0.5	1.2	70
	GaP	Green	565		1.7	2.1	1.2	1.8	
L8Y8G42292	GaAsP/GaP	Yellow	585	White Diffused	1.7	2.1	4.5	12	60
	GaP	Green	565		1.7	2.1	8	15	
Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@20mA		Viewing angle 2θ½
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
LHRF9UG42293	AlGaInP	Red	630	Water Clear	1.5	2.4	900	1500	30
	AlGaInP	Green	574		1.7	2.6	220	350	
★ LHRF9UG42293/R1	AlGaInP	Red	630	Water Clear	1.5	2.4	9	15	30
	AlGaInP	Green	574		1.7	2.6	5	10	
L9SEF9UG42293	AlGaInP	Orange	605	Water Clear	1.7	2.6	1100	2200	30
	AlGaInP	Green	574		1.7	2.6	350	550	
★ LURFDGM42293/S2	AlGaInP	Red	630	Water Clear	1.5	2.4	350	900	30
	InGaN	True Green	525		2.8	4	4000	9500	

**LED LAMP**

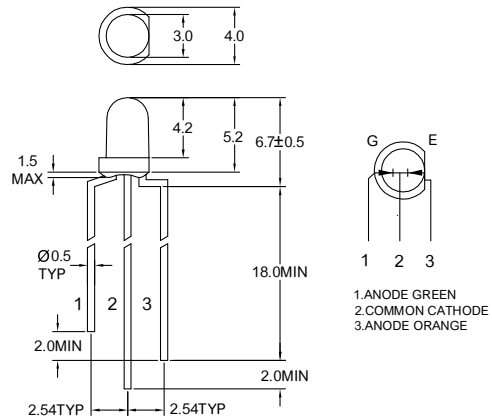
**SPECIAL LED LAMP MULTI - COLOR**



LED LAMP

Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@10mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LYG3392	GaAsP/GaP	Yellow	585	White Diffused	1.7	2.6	8	12	70
	GaP	Green	565		1.7	2.6	8	12	70
LEG3392	GaAsP/GaP	Orange Red	635	White Diffused	1.7	2.6	8	12	70
	GaP	Green	565		1.7	2.6	8	12	70
Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@20mA		Viewing angle 2θ½
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
L8HRF8UG3392	AlGaInP	Red	630	White Diffused	1.5	2.4	220	350	70
	AlGaInP	Green	574		1.7	2.6	65	120	70
L8HRF8UG3393	AlGaInP	Red	630	Water Clear	1.5	2.4	1100	1800	40
	AlGaInP	Green	574		1.7	2.6	350	550	40
LHRFVY3392	AlGaInP	Red	630	White Diffused	1.5	2.4	220	350	70
	AlGaInP	Yellow	590		1.7	2.6	160	390	70
LURHDGM3392	AlGaInP/GaP	Red	630	White Diffused	1.7	2.6	550	900	70
	InGaN	True Green	525		2.8	4	1100	1800	70

**SPECIAL LED LAMP MULTI - COLOR**

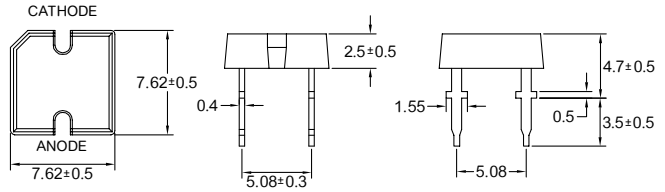


Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@10mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LYG2092	GaAsP/GaP	Yellow	585	White Diffused	1.7	2.6	8	12	60
	GaP	Green	565		1.7	2.6	8	15	60
LEG2092	GaAsP/GaP	Orange Red	635	White Diffused	1.7	2.6	8	12	60
	GaP	Green	565		1.7	2.6	8	15	60
Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@20mA		Viewing angle 2θ½
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
L8SRF8UG2092	AlGaInP	Red	630	White Diffused	1.5	2.4	38	65	60
	GaP	Green	574		1.7	2.6	38	65	60
LHRFDBK2092	AlGaInP	Red	630	White Diffused	1.5	2.4	220	350	60
	InGaN	Blue	470		2.8	4	220	450	60
LDURDGM2092/R6	AlGaInP	Red	625	White Diffused	1.7	2.6	1500	2200	60
	InGaN	True Green	525		2.8	4	900	1500	60

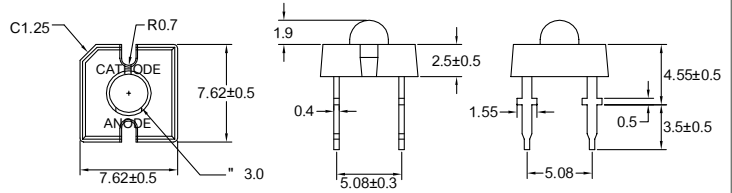
**LED LAMP**



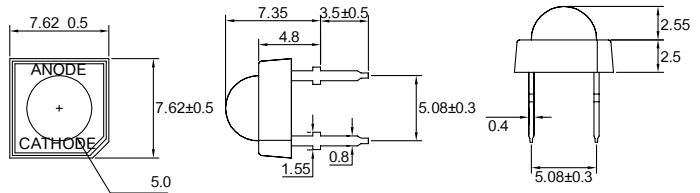
**SUPER FLUX LED LAMP**



Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@20mA		Viewing angle 2Θ½
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
LURF9653-00	AlGaInP	Red	630	Water Clear	1.5	2.4	65	120	130
LUY9653-00	AlGaInP	Yellow	595	Water Clear	1.7	2.6	65	120	130
LDBK9653-00	InGaN	Blue	470	Water Clear	2.8	4	90	160	106



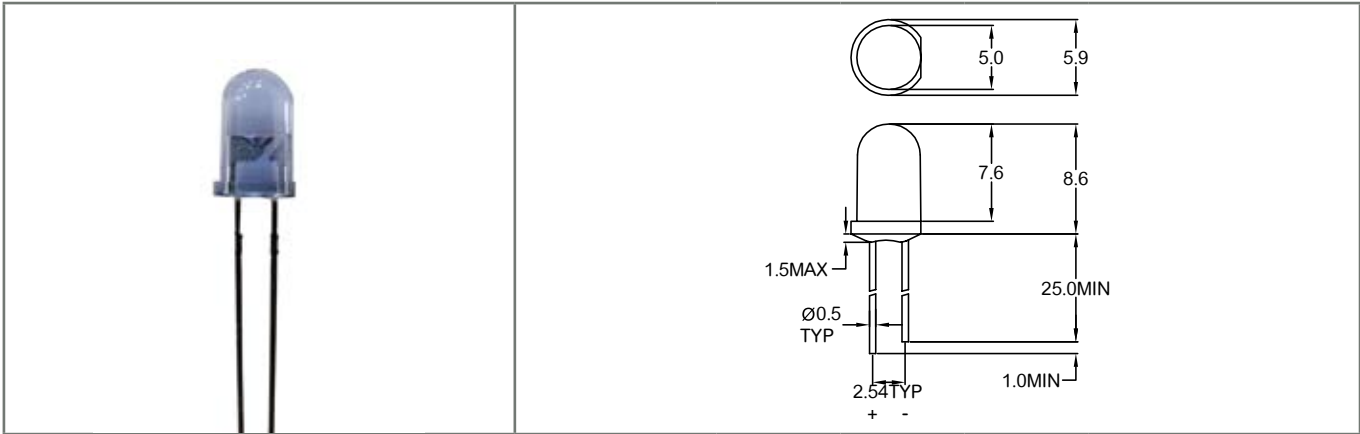
Part No	Chip			Lens color	Vf(V)@70mA		Luminous Flux @70mA(lm) * @30mA(mcd)		Viewing angle 2Θ½
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
L12URF9653S-30B/H55-AM	AlGaInP	Red	625	Water Clear	2.1	3.5	4.9	6.3	56
L12UY9653R-30B/H55-AM	AlGaInP	Yellow	590	Water Clear	2.1	3.5	4.9	6.3	56
LWK9653Z-30B-H55-AM-P-A01	InGaN	White	X=0.285 Y=0.282	Water Clear	2.8	4	*2200	*3400	38



Part No	Chip			Lens color	Vf(V)@20mA		IV(mcd)@20mA		Viewing angle 2Θ½
	Material	Emitted color	λD(nm)		Min	Max	Min	Typ	
L12URF9653S-50A	AlGaInP	Red	625	Water Clear	1.7	2.6	700	1500	90
L12UY9653R-50A	AlGaInP	Yellow	590	Water Clear	1.7	2.8	450	700	90

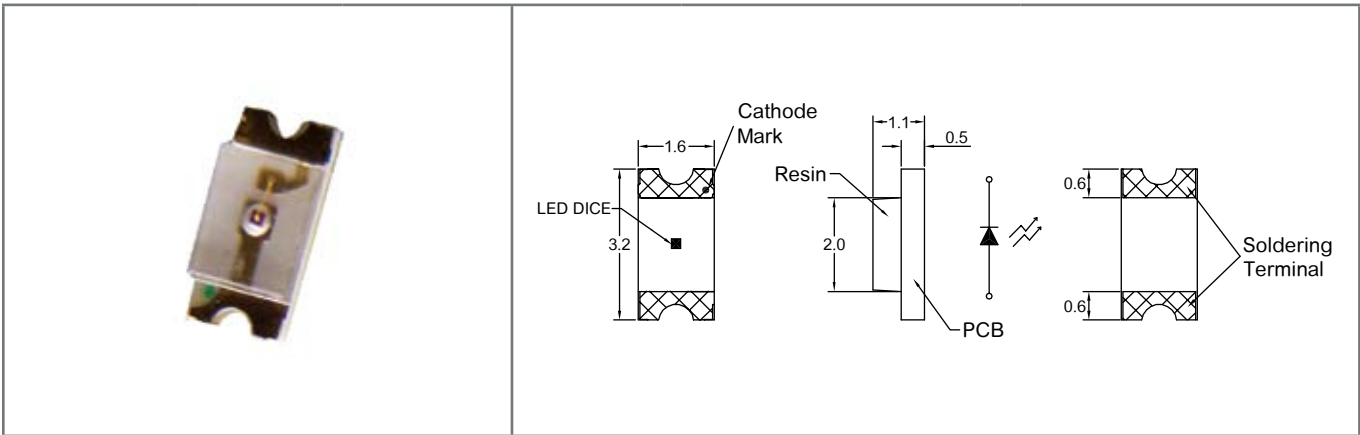
LED LAMP

**INFRARED LED**




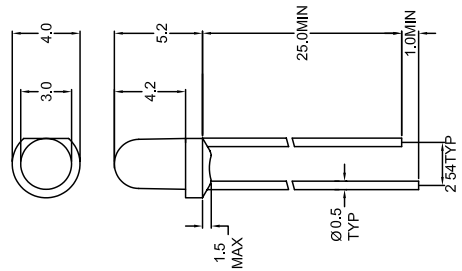
Part No	Chip		Lens color	Vf(V)@20mA		Le(mW/sr)@20mA		Viewing angle 2Θ½
	Material	λP(nm)		Min	Max	Min	Typ	
LIR3331	GaAlAP	940	Blue Transparent	1.2	1.6	15	30	20
LIR3333	GaAlAP	940	Water Clear	1.2	1.6	15	30	20
LSIR3331	AlGaAs/GaAs	880	Blue Transparent	1.4	1.7	8	12	20
LSIR3333	AlGaAs/GaAs	880	Water Clear	1.4	1.7	8	12	20
LHIR3331	AlGaAs/GaAs	850	Blue Transparent	1.2	1.6	17	29	20
LHIR3333	AlGaAs/GaAs	850	Water Clear	1.2	1.6	17	29	20


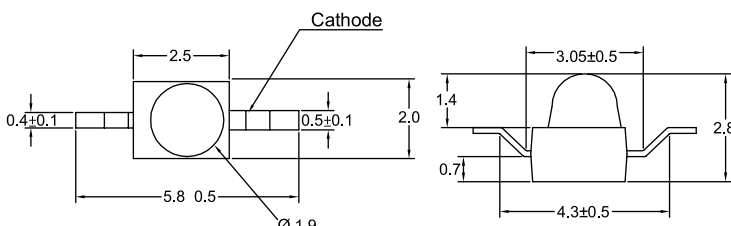
**INFRARED LED**


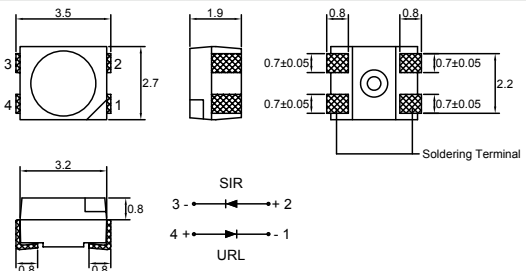


Part No	Chip		Vf(V)@20mA		Vf(V)@10mA		Viewing angle 2Θ½
	Material	λP(nm)	Min	Max	Min	Typ	
LG-150IR-CT	GaAlAs	940	1.2	1.6	3	4.5	30
LG-150SIR-CT	GaAlAs	880	1.2	1.6	3	4.5	30
LG-150HIR-CT	GaAlAs	850	1.2	1.6	4	5.5	30


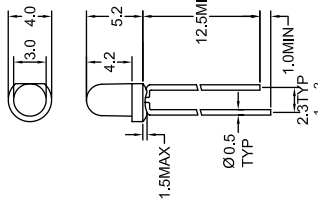
## INFRARED LED


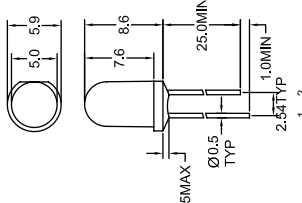
								
Part No	Chip		Lens color	Vf(V)@20mA		Radiant Intensity @20(mW/Sr)		Viewing angle 2Θ½
	Material	λP(nm)		Typ	Max	Min	Typ	
LIR2041	GaAlAs/GaAs	940	Blue transparent	1.2	1.6	3.0	4.5	30
LIR2043	GaAlAs/GaAs	940	Water Clear	1.2	1.6	3.0	4.5	30
LSIR2041	GaAlAs	880	Blue Transparent	1.4	1.7	3.0	4.5	30
LSIR2043	GaAlAs	880	Water Clear	1.4	1.7	3.0	4.5	30
LHIR2041	GaAlAs/GaAs	850	Blue Transparent	1.2	1.6	5.0	7	30
LHIR2043	GaAlAs/GaAs	850	Water Clear	1.2	1.6	5.0	7	30

								
Part No	Chip		Lens color	Vf(V)@20mA		Radiant Intensity @20(mW/Sr)		Viewing angle 2Θ½
	Material	λP(nm)		Typ	Max	Min	Typ	
LIR9033/TR2	GaAlAs	940	Water Clear	1.2	1.6	0.9	1.5	20
LSIR9033/TR2	GaAlAs	880	Water Clear	1.2	2.0	1.2	2.0	20
LHIR9033/TR2	GaAlAs	850	Water Clear	1.2	1.6	5	12	20


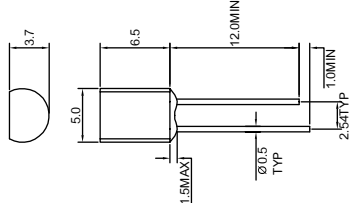
								
Part No	Chip		Lens color	Vf(V)@20mA		Radiant Intensity @20(mW/Sr)		Viewing angle 2Θ½
	Material	λP(nm)		Typ	Max	Min	Typ	
LURLSIR9553/R4/TR1-B01	GaAlAs	660	Water Clear	1.6	2.4	0.8	1.2	120
	GaAlAs	880		1.3	1.7	0.8	1.2	120


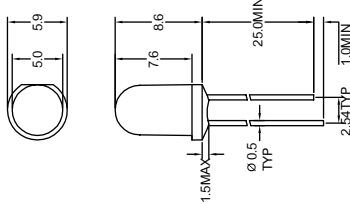
## PHOTOTRANSISTOR

							
Part No	Chip		Vce (sat) Ic=0.5mA Max	Vceo V Min	Rise & Fall Time ( $\mu$ s) Typ	$\lambda$ P=940nm Vce=5V Ee=1mW/cm <sup>2</sup> (mA) Typ	Viewing angle 2 $\theta$ $\frac{1}{2}$
	Material	Lens Color					
LPT2021	Silicon	Blue Transparent	0.4V	30	5	20	16
LPT2023	Silicon	Water Clear	0.4V	30	5	20	16

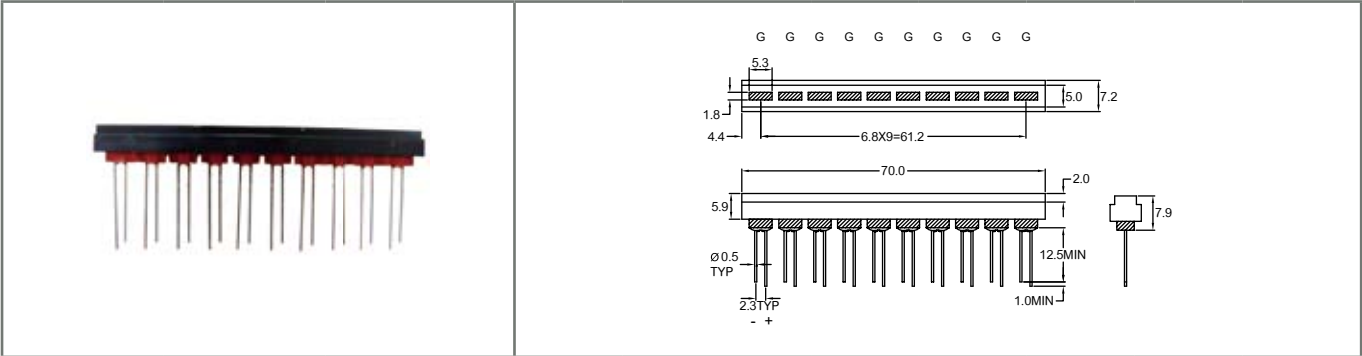
							
Part No	Chip		Vce (sat) Ic=0.5mA Max	Vceo V Min	Rise & Fall Time ( $\mu$ s) Typ	$\lambda$ P=940nm Vce=5V Ee=1mW/cm <sup>2</sup> (mA) Typ	Viewing angle 2 $\theta$ $\frac{1}{2}$
	Material	Lens Color					
LPT3331	Silicon	Transparent Clear	0.4V	30	5	4	20
LPT3333	Silicon	Water Clear	0.4V	30	5	4	20

## PHOTODIODE

								
Part No	Chip		Dark Current VR = 10V (nA)		Open Circuit Current (mW) Typ	Rise & Fall Time Typ (ns) Typ	Short Circuit Current ( $\mu$ A)	
	Material	Lens Color	Typ	Max			Min	Typ
LPD4380-PF	Silicon Planar	Black	1	30	350	50	1.5	2
LPD4383-PF	Silicon Planar	Water Clear	1	30	350	50	1.5	2

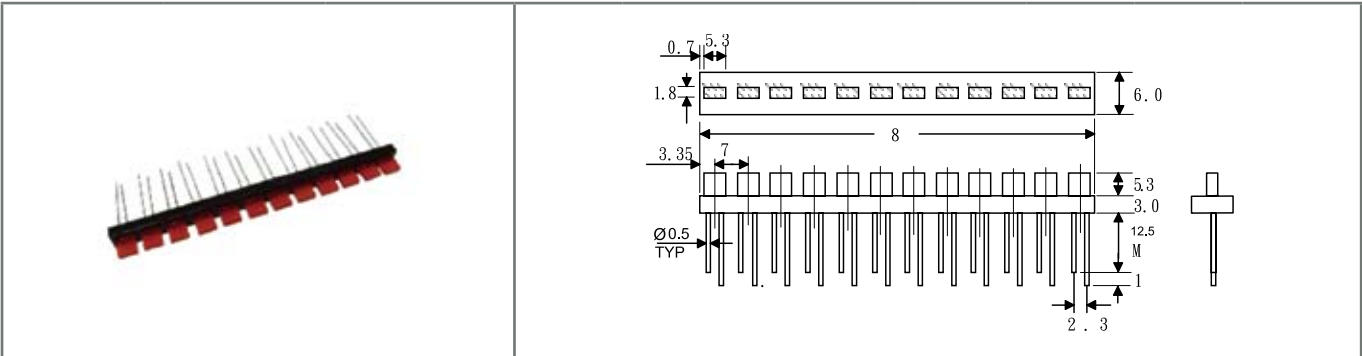
								
Part No	Chip		Dark Current VR = 10V (nA)		Open Circuit Current (mW) Typ	Rise & Fall Time Typ (ns) Typ	Short Circuit Current ( $\mu$ A)	
	Material	Lens Color	Typ	Max			Min	Typ
LPD3330	Silicon Planar	Black	1	30	350	50	1.5	2
LPD3333	Silicon Planar	Water Clear	1	30	350	50	1.5	2

**HOUSING LED LAMP**

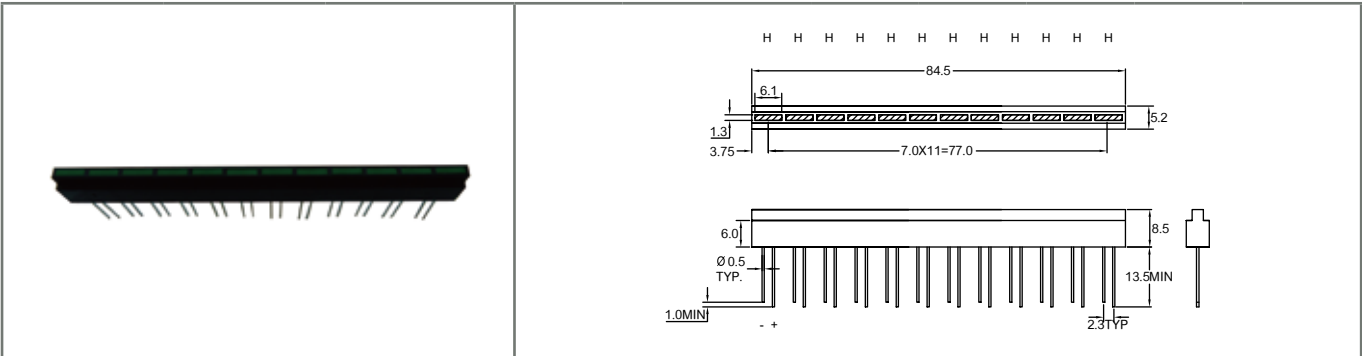


Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA08B/10I	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	1.8	3	142
LA08B/10G	GaP	Green	565	Green Diffused	1.7	2.6	1.8	3	142
LA08B/10Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	1.5	2.5	142

**HOUSING LED**

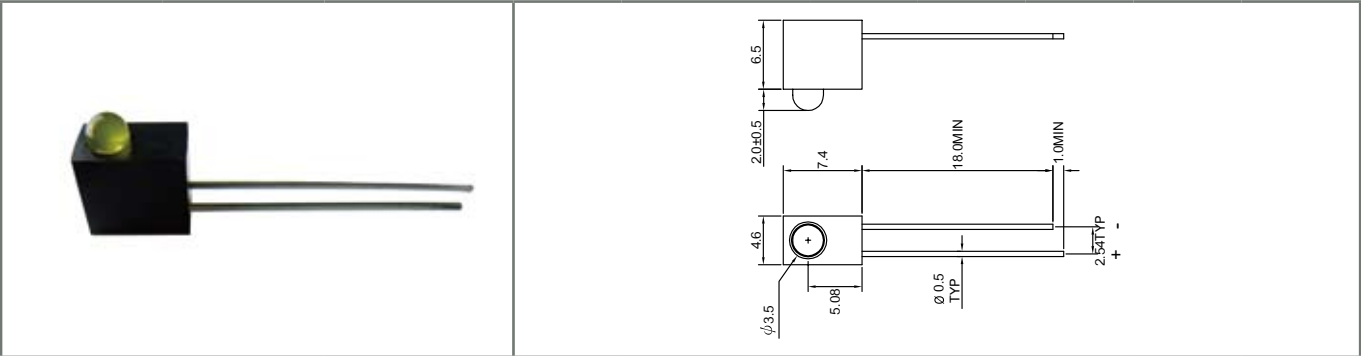


Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA11B/12I	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	1.8	3	142
LA11B/12G	GaP	Green	565	Green Diffused	1.7	2.6	1.8	3	142
LA11B/12Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	1.2	2.5	142

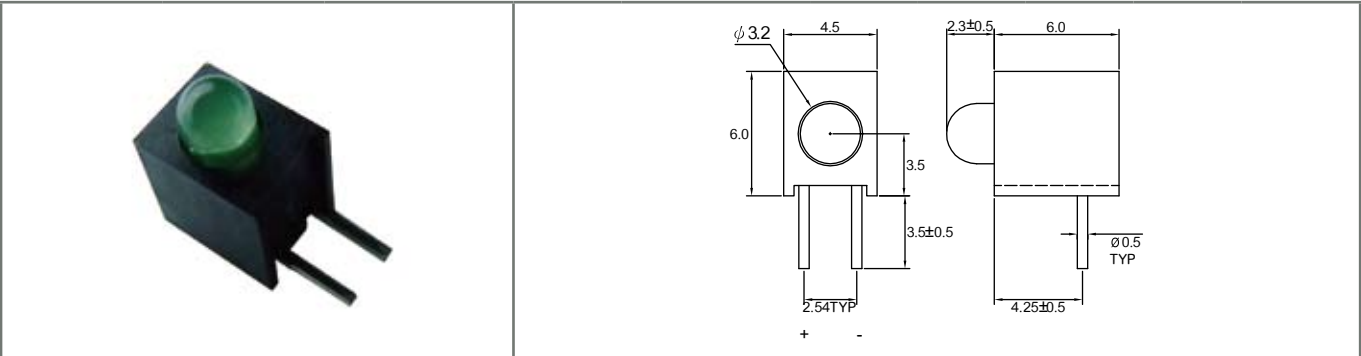


Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA12B/12I	GaAsP/GaP	Orange	635	Red Diffused	1.7	2.6	1.1	1.8	142
LA12B/12G	GaP	Green	565	Green Diffused	1.7	2.6	0.8	1.8	142
LA12B/12Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	0.9	1.5	142

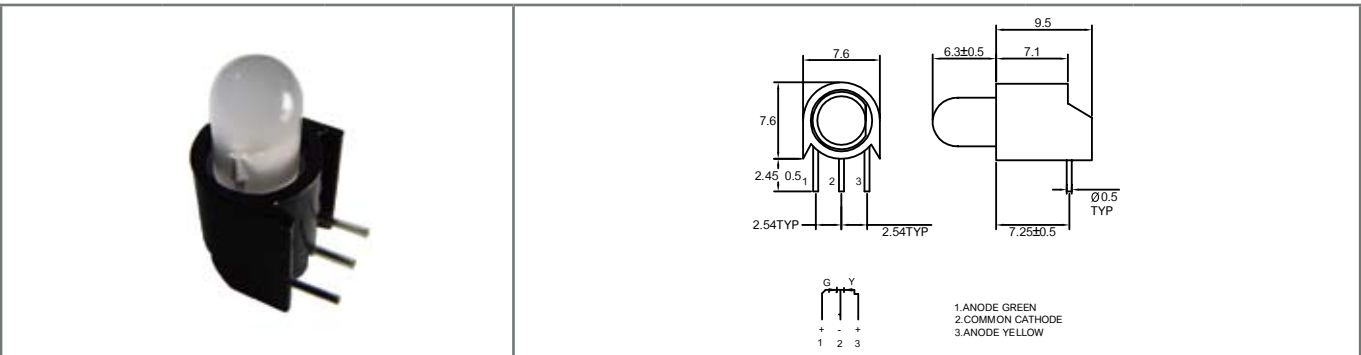
**HOUSING LED LAMP**



Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA16B/I	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	8	12	50
LA16B/G	GaP	Green	565	Green Diffused	1.7	2.6	12	20	50
LA16B/Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	12	50



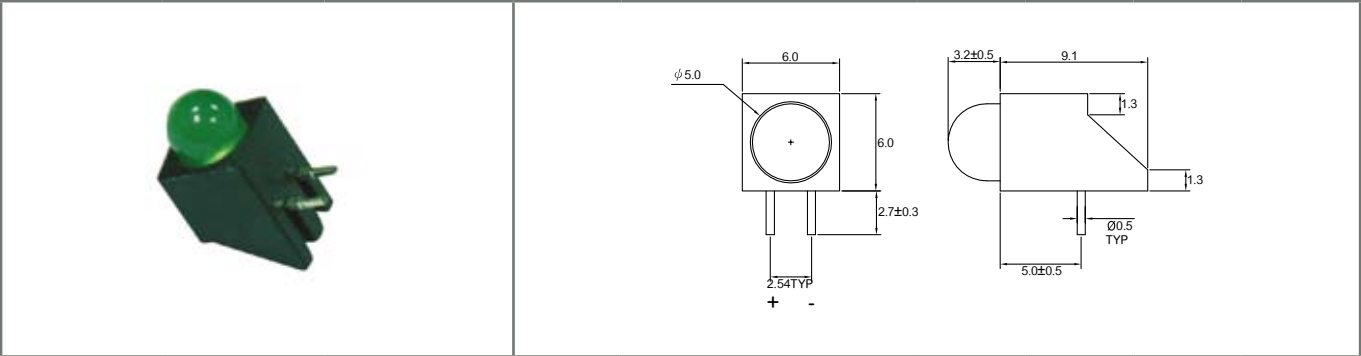
Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA140B/I	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	7.5	12	50
LA140B/G	GaP	Green	565	Green Diffused	1.7	2.6	12	20	50
LA140B/Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	12	50



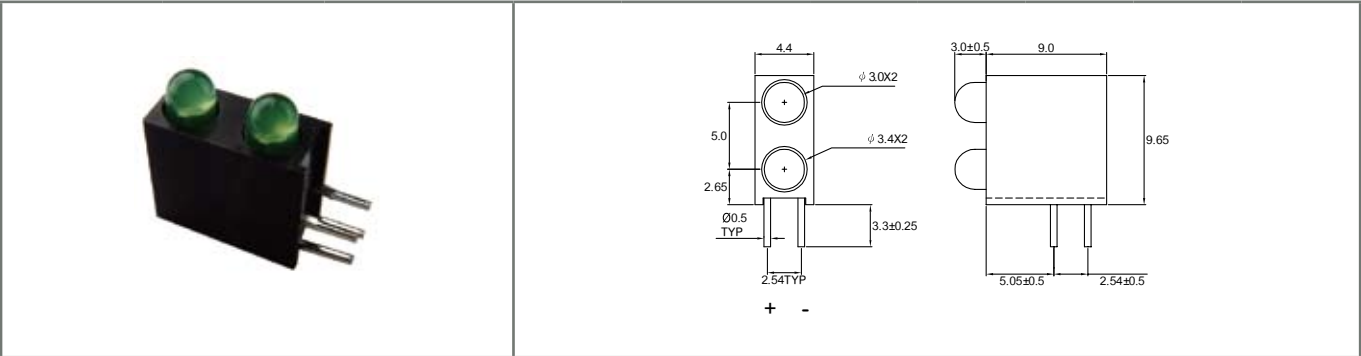
Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA46B/EG	GaAsP/GaP	Orange Red	635	White Diffused	1.7	2.6	7.2	12	70
	GaP	Green	565	White Diffused	1.7	2.6	7.2	12	70
LA46B/YG	GaAsP/GaP	Yellow	585	White Diffused	1.7	2.6	7.2	12	70
	GaP	Green	565	White Diffused	1.7	2.6	7.2	12	70

**HOUSING LED**

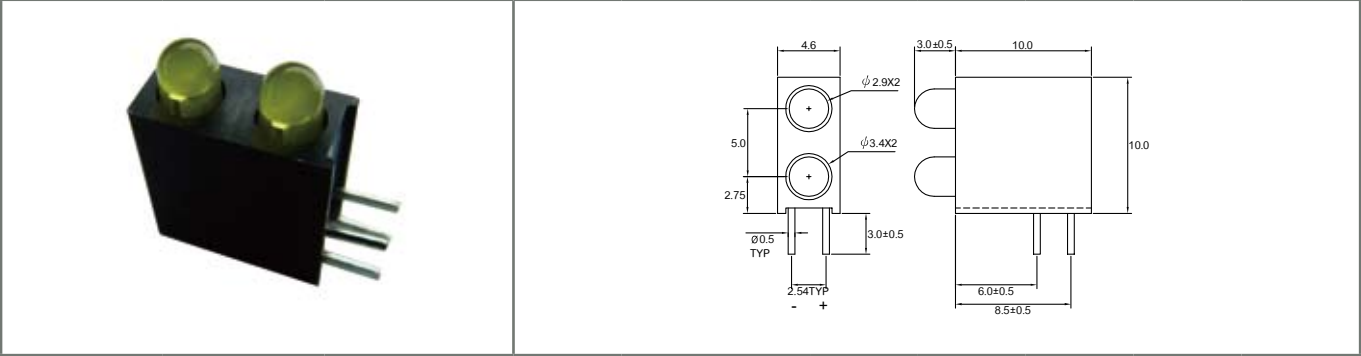
**HOUSING LED LAMP**



Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA93B/I-2	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	20	30	46
LA93B/G-2	GaP	Green	565	Green Diffused	1.7	2.6	20	30	46
LA93B/Y-2	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	20	30	46



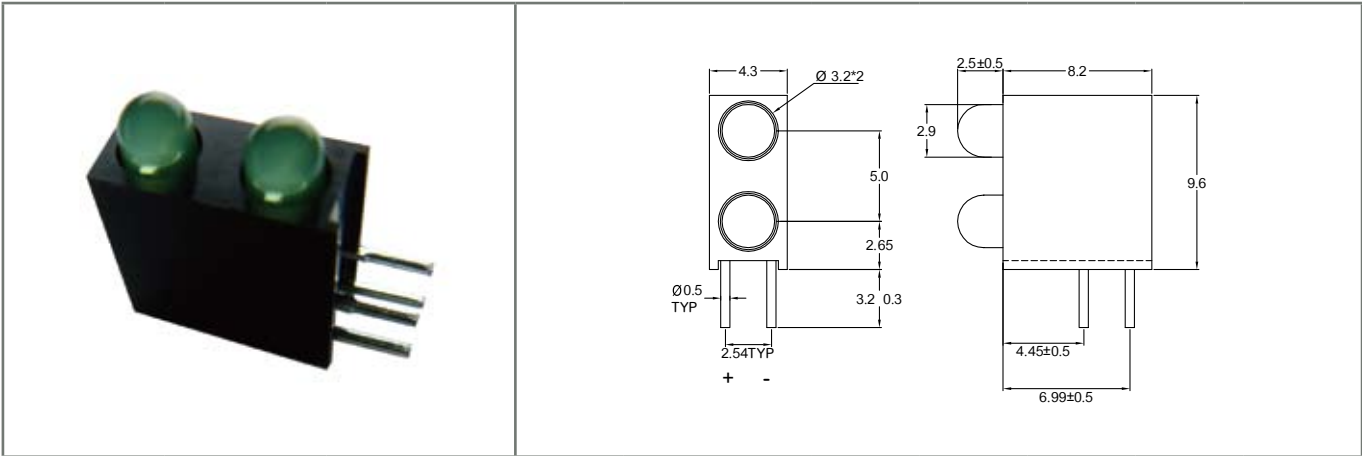
Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA44B/2E-S2	GaAsP/GaP	Orange Red	635	Orange Diffused	1.7	2.6	8	20	80
LA44B/2I-S2	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	8	20	80
LA44B/2G-S2	GaP	Green	565	Green Diffused	1.7	2.6	8	20	80
LA44B/2A-S2	GaAsP/GaP	Yellow	592	Orange Diffused	1.7	2.6	8	20	80
LA44B/2Y-S2	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	20	80



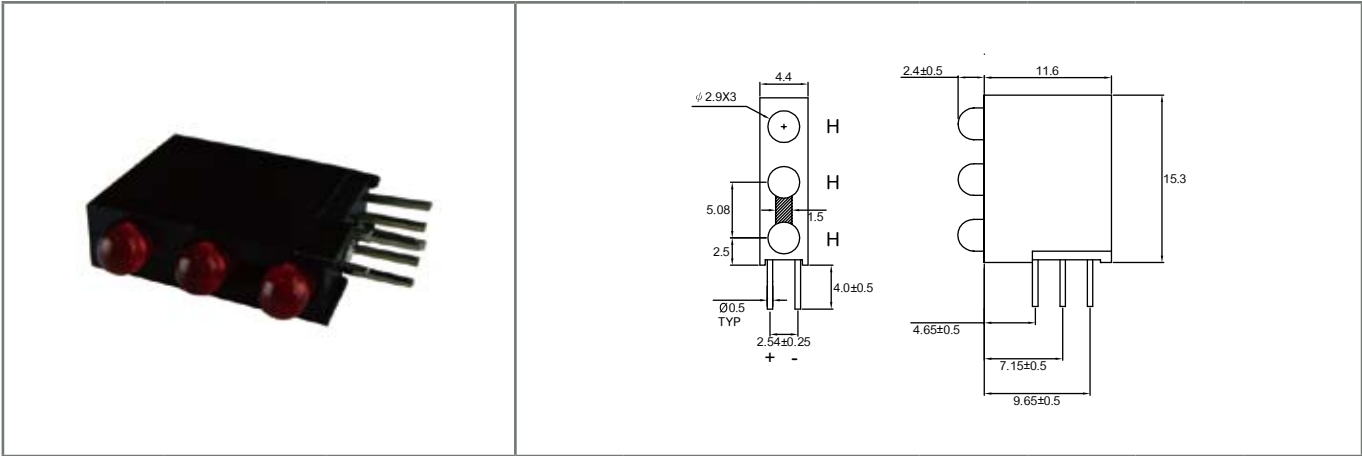
Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA45B/2I	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	8	12	50
LA45B/2G	GaP	Green	565	Green Diffused	1.7	2.6	12	20	50
LA45B/2Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	12	50

**HOUSING LED**

**HOUSING LED LAMP**



Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA112B/2G	GaP	Green	565	Green Diffused	1.7	2.6	12	20	50
LA112B/2Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	12	50

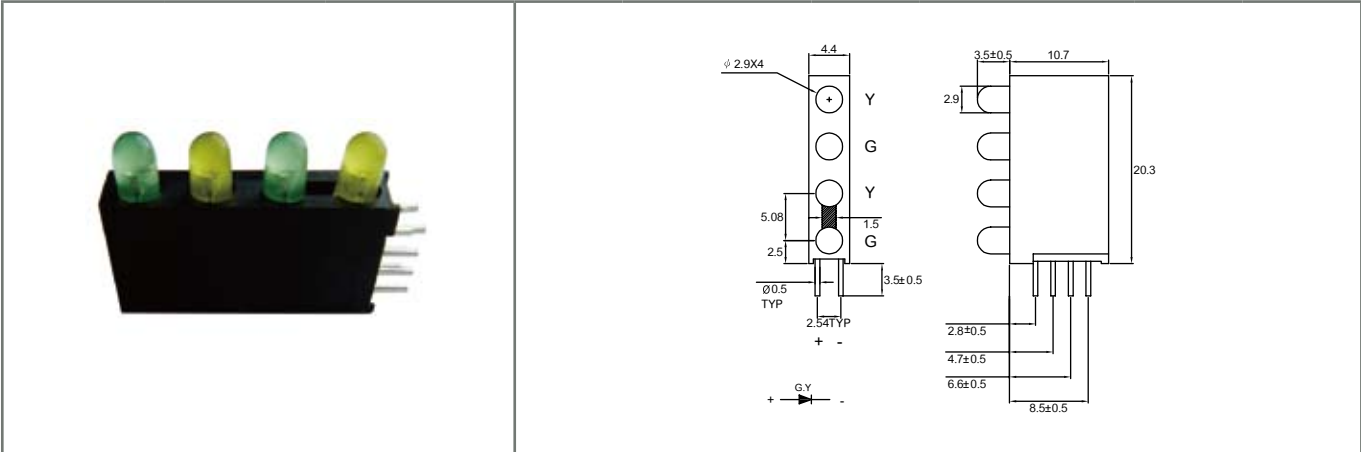


Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA73B-1/3E	GaAsP/GaP	Orange Red	635	Orange Diffused	1.7	2.6	8	12	50
LA73B-1/3I	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	8	12	50
LA73B-1/3G	GaP	Green	565	Green Diffused	1.7	2.6	12	20	50
LA73B-1/3Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	12	50

**HOUSING LED**

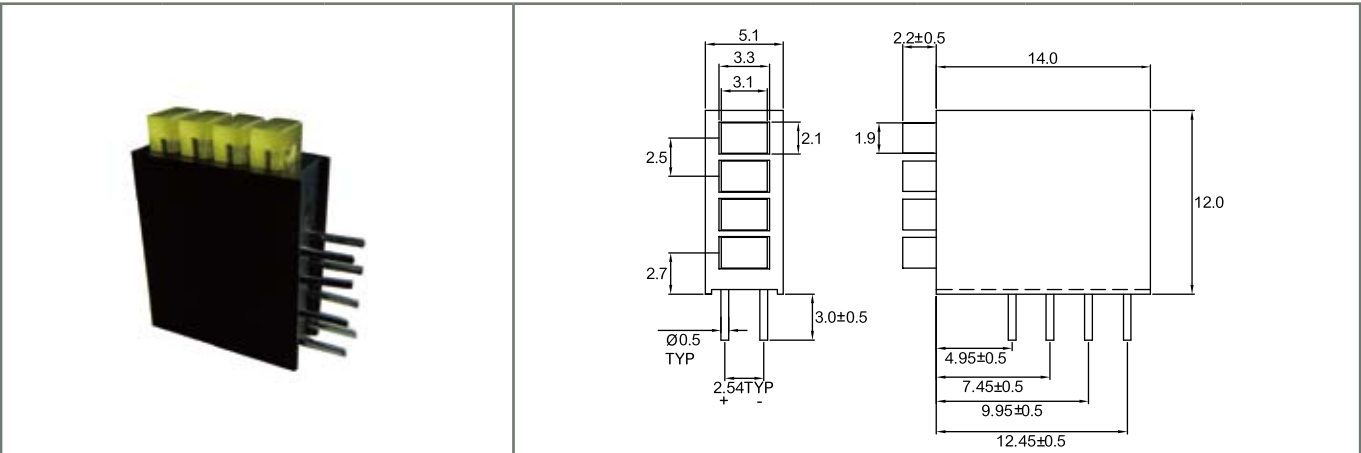


**HOUSING LED LAMP**



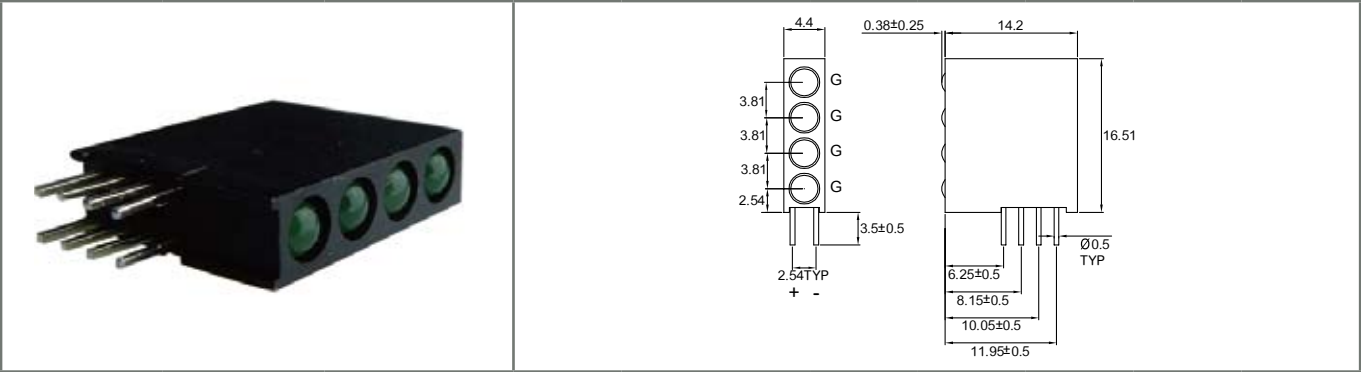
Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA79B-1/YGYG	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	20	80
	GaP	Green	565	Green Diffused	1.7	2.6	8	20	80
LA79B-1/YGGG	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	20	80
	GaP	Green	565	Green Diffused	1.7	2.6	8	20	80
LA79B-1/GYYY	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	20	80
	GaP	Green	565	Green Diffused	1.7	2.6	8	20	80

HOUSING LED

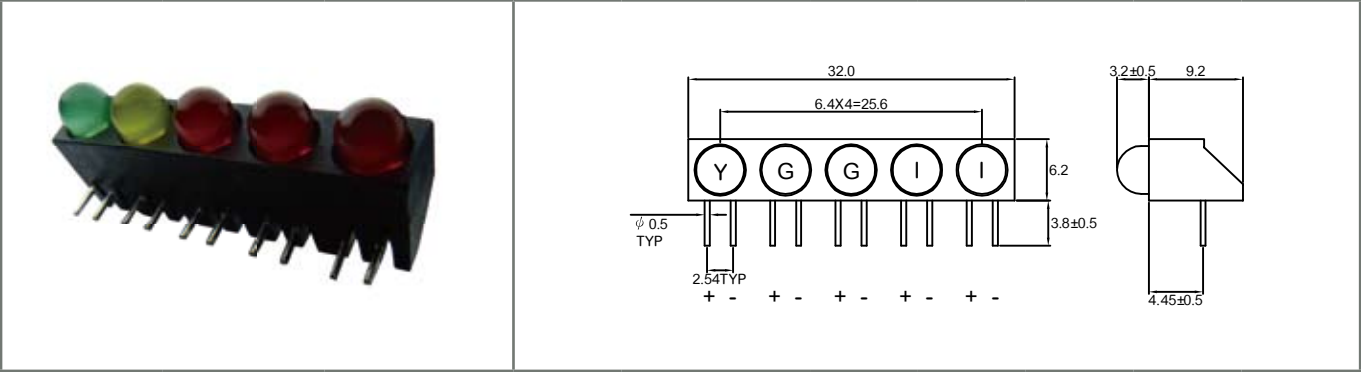


Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA110B/4G	GaP	Green	565	Green Diffused	1.7	2.6	8	15	138

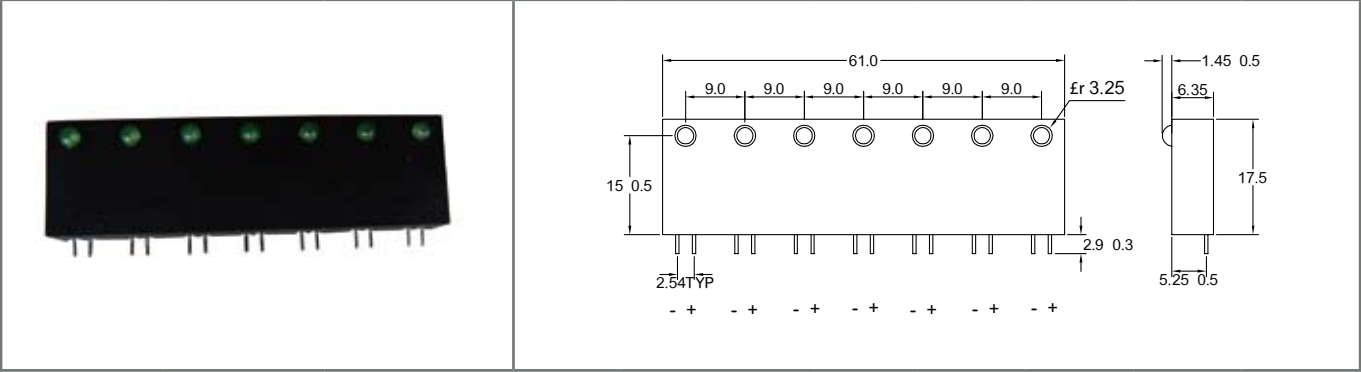
**HOUSING LED LAMP**



Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA119B/4G	GaP	Green	585	Red Diffused	1.7	2.6	12	20	50
LA119B/4Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	12	50



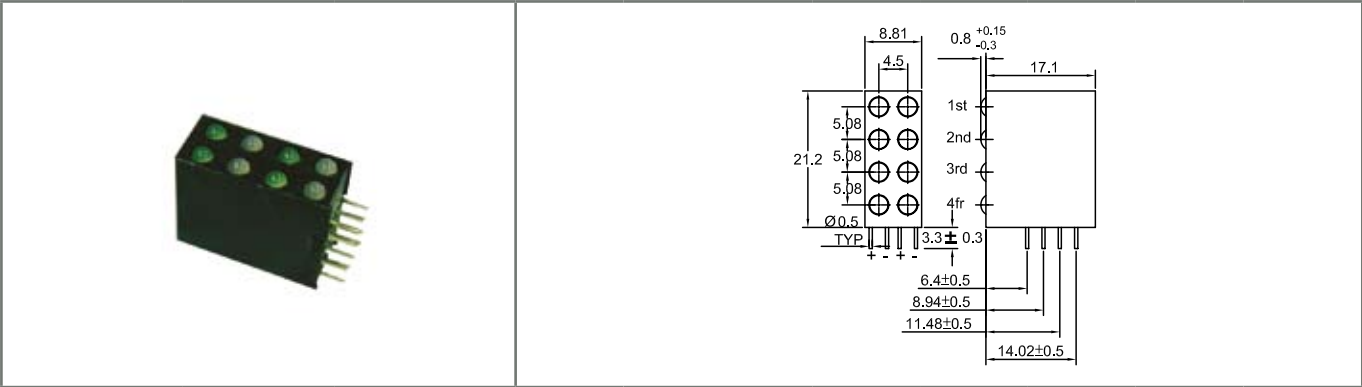
Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA93B-5/I	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.6	20	30	46
LA93B-5/E	GaAsP/GaP	Orange Red	635	Orange Diffused	1.7	2.6	20	30	46
LA93B-5/G	GaP	Green	565	Green Diffused	1.7	2.6	20	30	46
LA93B-5/Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	20	30	46



Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA167B-7/G	GaP	Green	565	Green Diffused	1.7	2.6	12	20	50
LA167B-7/Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	8	12	50

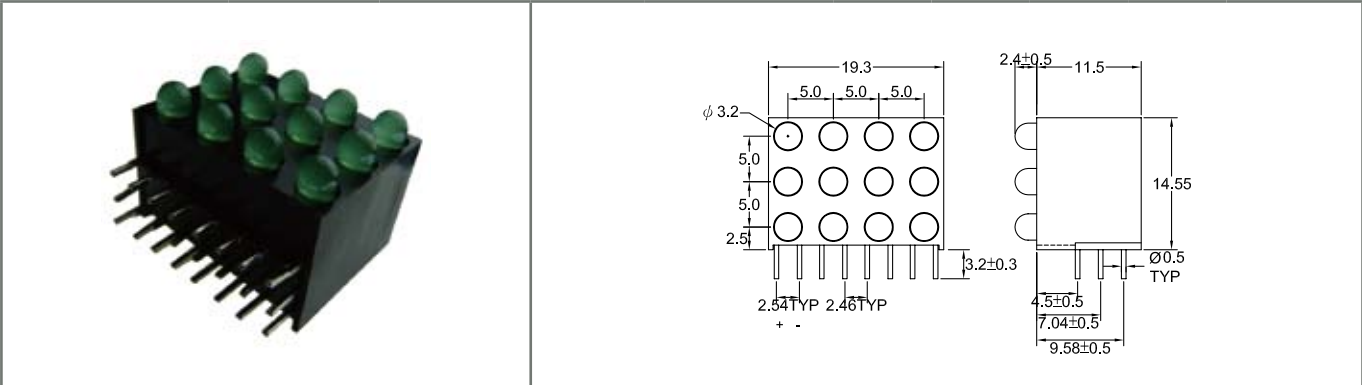
**HOUSING LED**

**HOUSING LED LAMP**

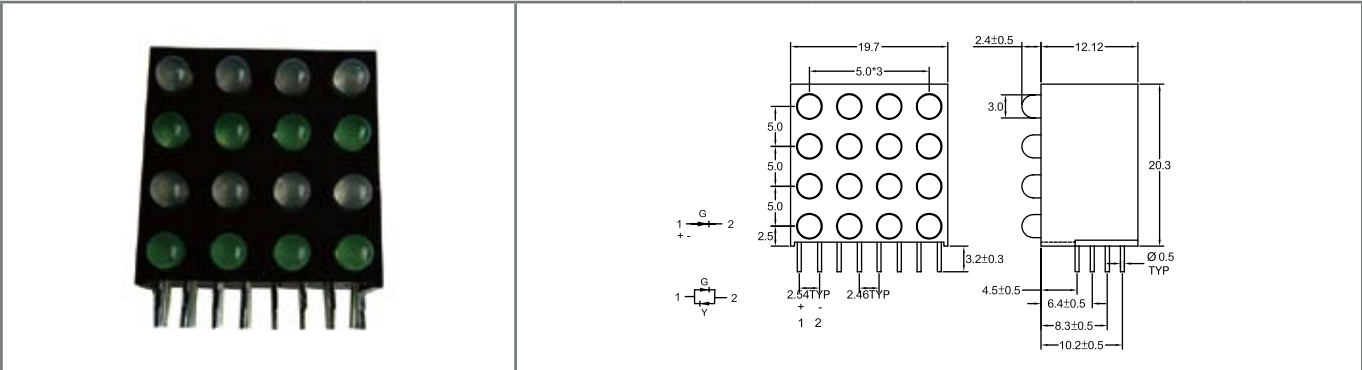


Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA118B/260-S1	GaAsP/GaP	Yellow	585	White Diffused	1.7	2.6	4.5	12	50
	GaP	Green	565		1.7	2.6	8	15	50
	GaP	Green	565	Green Diffused	1.7	2.6	12	20	50

**HOUSING LED**

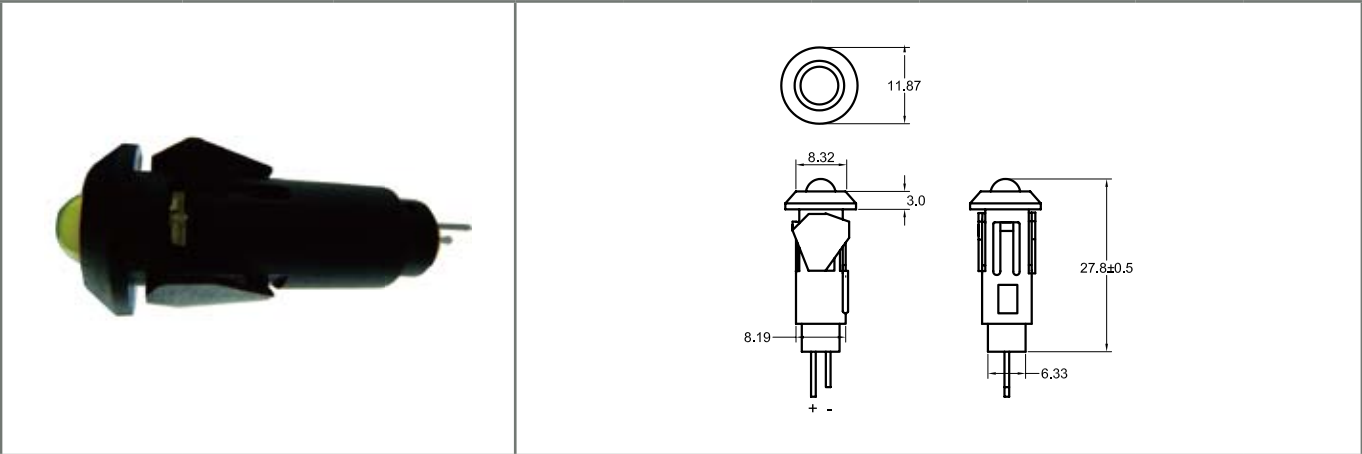


Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA183B-1/230-A	GaP	Green	565	Green Diffused	1.7	2.6	8	20	80



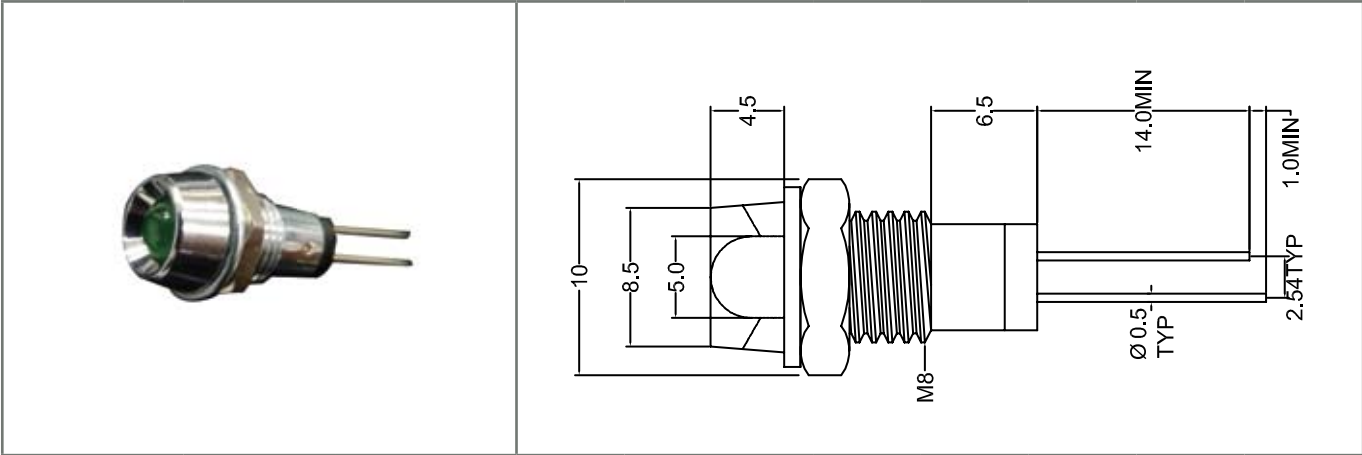
Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA182B-1/230-A	GaAsP/GaP	Yellow	585	White Diffused	1.7	2.6	2.3	3.9	100
	GaP	Green	565		1.7	2.6	2.3	3.9	100
	GaP	Green	565	Green Diffused	1.7	2.6	8	20	80

**HOUSING LED LAMP**



Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA41B/I	GaAsP/GaP	Orange Red	630	Red Diffused	1.7	2.6	12	24	36
LA41B/G	GaP	Green	565	Green Diffused	1.7	2.6	20	30	36
LA41B/Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.6	20	30	36

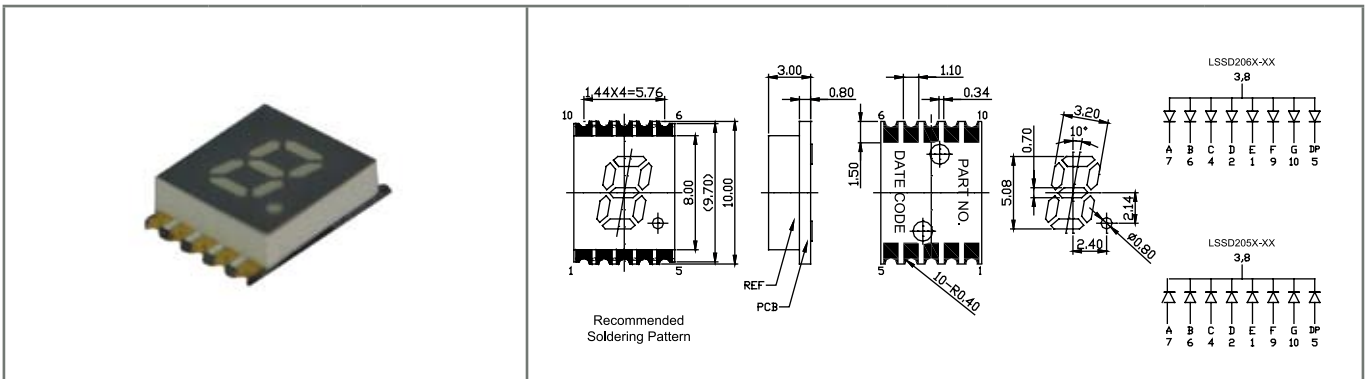
**HOUSING LED**



Part No	Chip			Lens color	Vf(V)@20mA		Iv (mcd) @10mA		Viewing angle 2Θ½
	Material	Emitted color	λP(nm)		Min	Max	Min	Typ	
LA07W/I	GaAsP/GaP	Orange Red	635	Red Diffused	1.7	2.8	12	24	36
LA07W/G	GaP	Green	565	Green Diffused	1.7	2.8	20	30	36
LA07W/Y	GaAsP/GaP	Yellow	585	Yellow Diffused	1.7	2.8	20	30	36

SINGLE SMD DISPLAY

0.2"

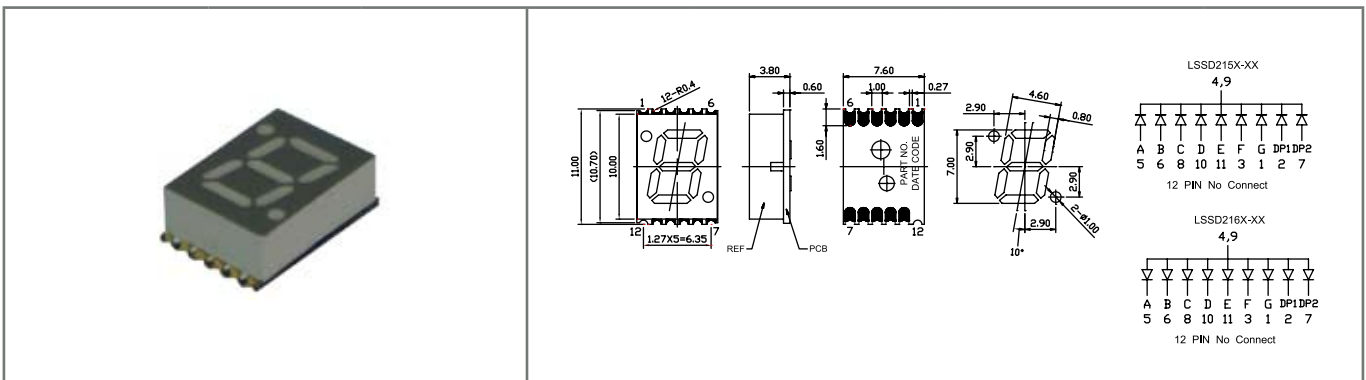


Part No	Chip			Vf(V)@20mA	lv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSSD205A-XX	AlGaInP	Green	570	2.1	6	CC
LSSD206A-XX						CA
LSSD2056F-XX	AlGaInP	Red	625	2.0	12	CC
LSSD2066F-XX						CA
LSSD2053V-XX	AlGaInP	Yellow	590	2.0	12	CC
LSSD2063V-XX						CA
LSSD205DGM-XX	InGaN	True Green	525	3.2	50	CC
LSSD206DGM-XX						CA
LSSD205DBK-XX	InGaN	Blue	470	3.2	20	CC
LSSD206DBK-XX						CA

SINGLE SMD DISPLAY

0.28"

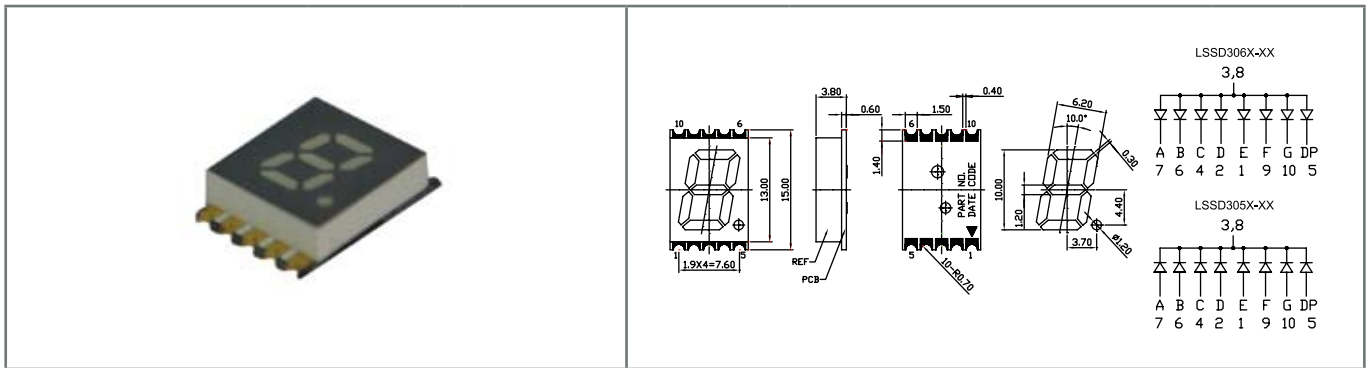
SMD DISPLAY



Part No	Chip			Vf(V)@20mA	lv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSSD215A-XX	AlGaInP	Green	570	2.1	6	CC
LSSD216A-XX						CA
LSSD2156F-XX	AlGaInP	Red	625	2.0	10	CC
LSSD2166F-XX						CA
LSSD2153V-XX	AlGaInP	Yellow	590	2.0	10	CC
LSSD2163V-XX						CA
LSSD215DGM-XX	InGaN	True Green	525	3.2	50	CC
LSSD216DGM-XX						CA
LSSD215DBK-XX	InGaN	Blue	470	3.2	20	CC
LSSD216DBK-XX						CA

SINGLE SMD DISPLAY

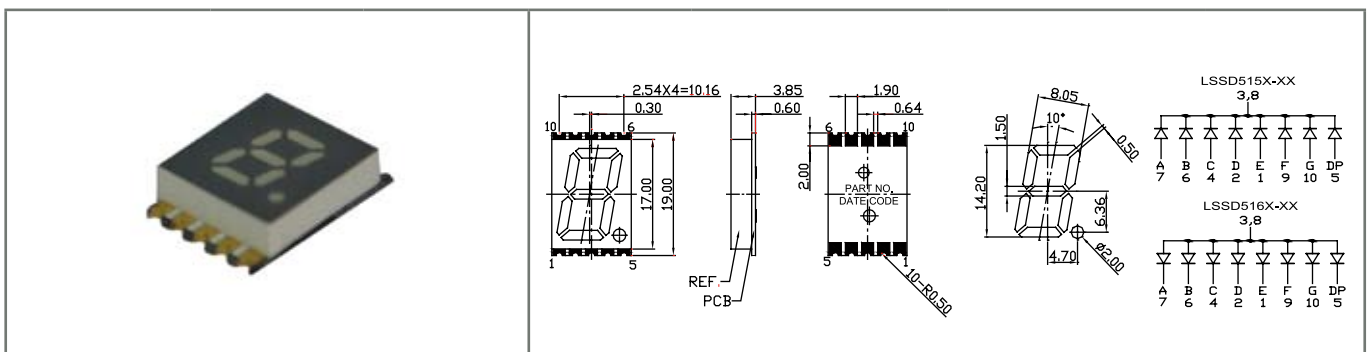
0.39"



Part No	Chip			Vf(V)@20mA	Iv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSSD305A-XX	AlGaInP	Green	570	2.1	12	CC
LSSD306A-XX						CA
LSSD3056F-XX	AlGaInP	Red	625	2.0	30	CC
LSSD3066F-XX						CA
LSSD3053V-XX	AlGaInP	Yellow	590	2.0	30	CC
LSSD3063V-XX						CA
LSSD305DGM-XX	InGaN	True Green	525	3.2	130	CC
LSSD306DGM-XX						CA
LSSD305DBK-XX	InGaN	Blue	470	3.2	40	CC
LSSD306DBK-XX						CA
LSSD305WK-XX	InGaN	White	-	3.2	100	CC
LSSD306WK-XX						CA

SINGLE SMD DISPLAY

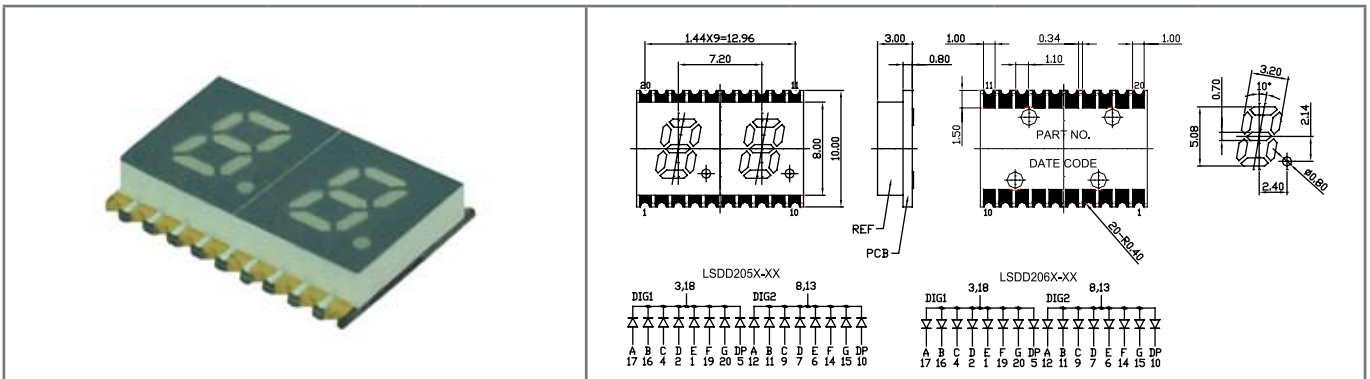
0.56"



Part No	Chip			Vf(V)@20mA	Iv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSSD515A-XX	AlGaInP	Green	570	2.1	10	CC
LSSD516A-XX						CA
LSSD5156F-XX	AlGaInP	Red	625	2.0	25	CC
LSSD5166F-XX						CA
LSSD5153V-XX	AlGaInP	Yellow	590	2.0	25	CC
LSSD5163V-XX						CA
LSSD515DGM-XX	InGaN	True Green	525	3.2	90	CC
LSSD516DGM-XX						CA
LSSD515DBK-XX	InGaN	Blue	470	3.2	30	CC
LSSD516DBK-XX						CA
LSSD515WK-XX	InGaN	White	-	3.2	65	CC
LSSD516WK-XX						CA

DOUBLE SMD DISPLAY

0.2"

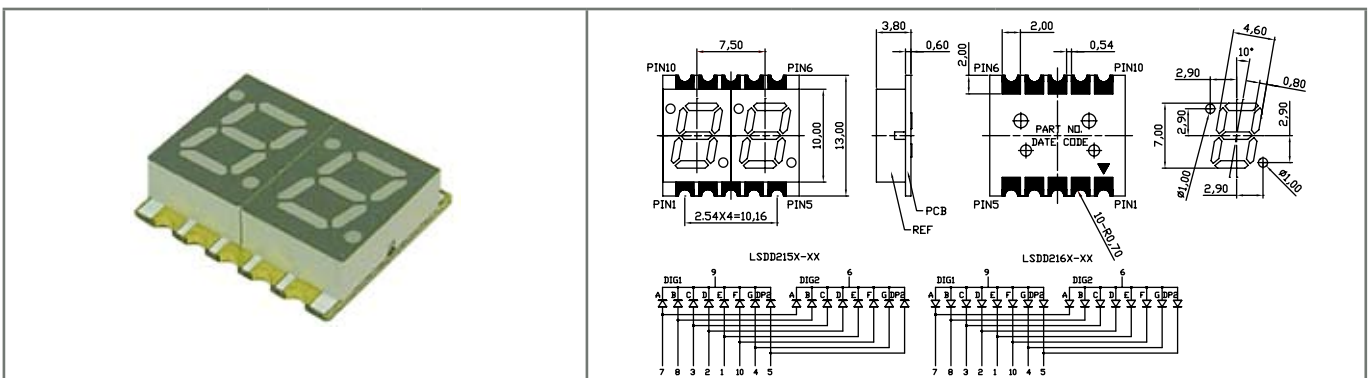


Part No	Chip			Vf(V)@20mA	lv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSDD205A-XX	AlGaInP	Green	570	2.1	6	CC
LSDD206A-XX						CA
LSDD2056F-XX	AlGaInP	Red	625	2.0	12	CC
LSDD2066F-XX						CA
LSDD2053V-XX	AlGaInP	Yellow	590	2.0	12	CC
LSDD2063V-XX						CA
LSDD205DGM-XX	InGaN	True Green	525	3.2	50	CC
LSDD206DGM-XX						CA
LSDD205DBK-XX	InGaN	Blue	470	3.2	20	CC
LSDD206DBK-XX						CA

DOUBLE SMD DISPLAY

0.28"

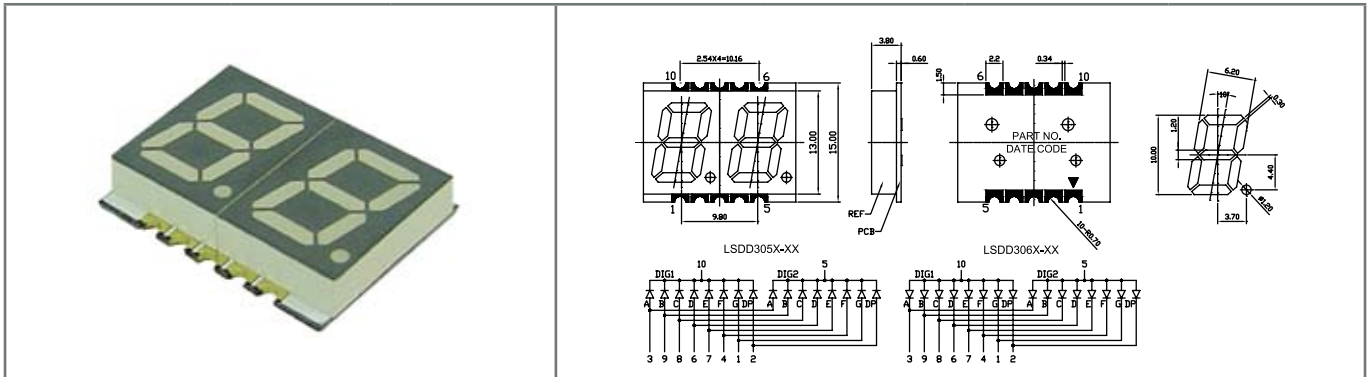
SMD DISPLAY



Part No	Chip			Vf(V)@20mA	lv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSDD215A-XX	AlGaInP	Green	570	2.1	6	CC
LSDD216A-XX						CA
LSDD2156F-XX	AlGaInP	Red	625	2.0	10	CC
LSDD2166F-XX						CA
LSDD2153V-XX	AlGaInP	Yellow	590	2.0	10	CC
LSDD2163V-XX						CA
LSDD215DGM-XX	InGaN	True Green	525	3.2	50	CC
LSDD216DGM-XX						CA
LSDD215DBK-XX	InGaN	Blue	470	3.2	20	CC
LSDD216DBK-XX						CA

DOUBLE SMD DISPLAY

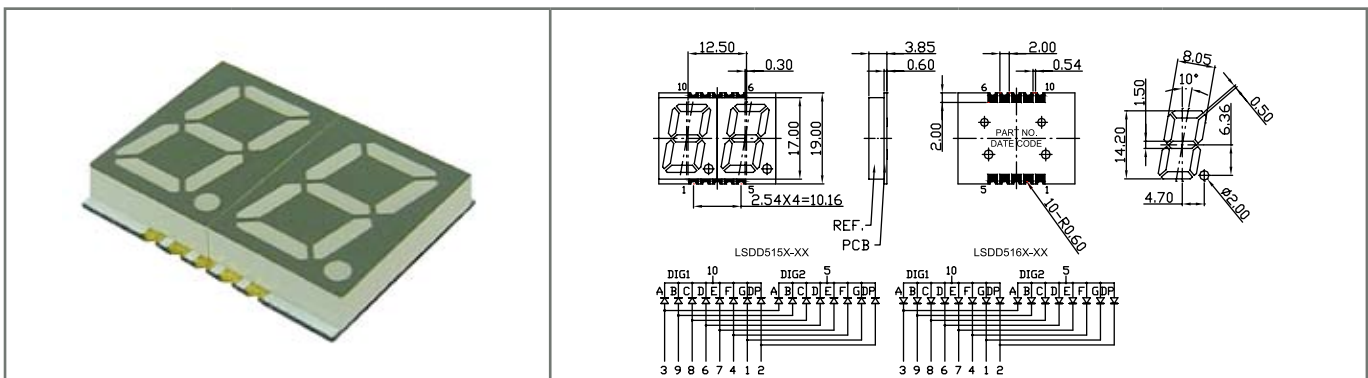
0.39"



Part No	Chip			Vf(V)@20mA	Iv(mcd)@20mA	CC or CA
	Material	Emitted color	$\lambda$ D(nm)	Typ	Typ	
LSDD305A-XX	AlGaInP	Green	570	2.1	12	CC
LSDD306A-XX						CA
LSDD3056F-XX	AlGaInP	Red	625	2.0	30	CC
LSDD3066F-XX						CA
LSDD3053V-XX	AlGaInP	Yellow	590	2.0	30	CC
LSDD3063V-XX						CA
LSDD305DGM-XX	InGaIn	True Green	525	3.2	130	CC
LSDD306DGM-XX						CA
LSDD305DBK-XX	InGaIn	Blue	470	3.2	40	CC
LSDD306DBK-XX						CA
LSDD305WK-XX	InGaIn	White	-	3.2	100	CC
LSDD306WK-XX						CA

DOUBLE SMD DISPLAY

0.56"



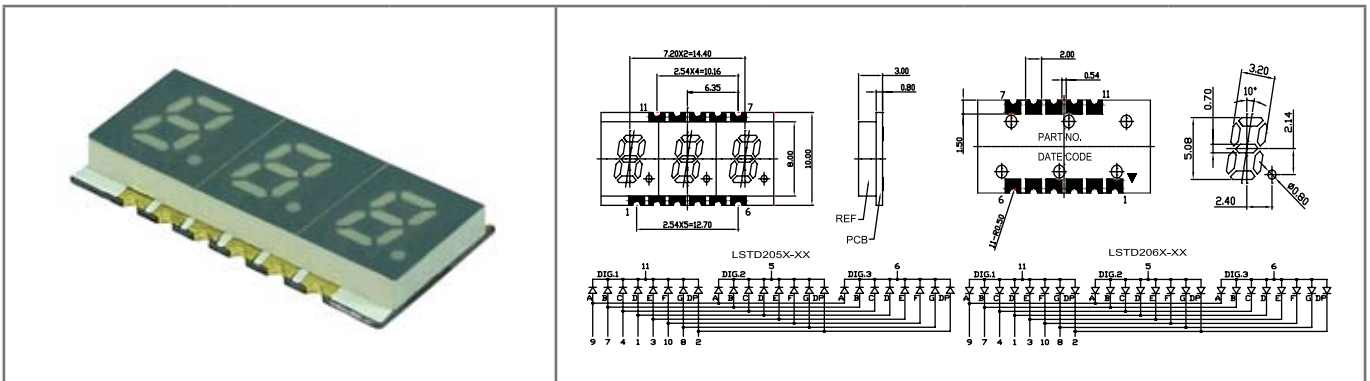
Part No	Chip			Vf(V)@20mA	Iv(mcd)@20mA	CC or CA
	Material	Emitted color	$\lambda$ D(nm)	Typ	Typ	
LSDD515A-XX	AlGaInP	Green	570	2.1	10	CC
LSDD516A-XX						CA
LSDD5156F-XX	AlGaInP	Red	625	2.0	25	CC
LSDD5166F-XX						CA
LSDD5153V-XX	AlGaInP	Yellow	590	2.0	25	CC
LSDD5163V-XX						CA
LSDD515DGM-XX	InGaIn	True Green	525	3.2	90	CC
LSDD516DGM-XX						CA
LSDD515DBK-XX	InGaIn	Blue	470	3.2	30	CC
LSDD516DBK-XX						CA
LSDD515WK-XX	InGaIn	White	-	3.2	65	CC
LSDD516WK-XX						CA

SMD DISPLAY



**TRIPLE SMD DISPLAY**

0.2"

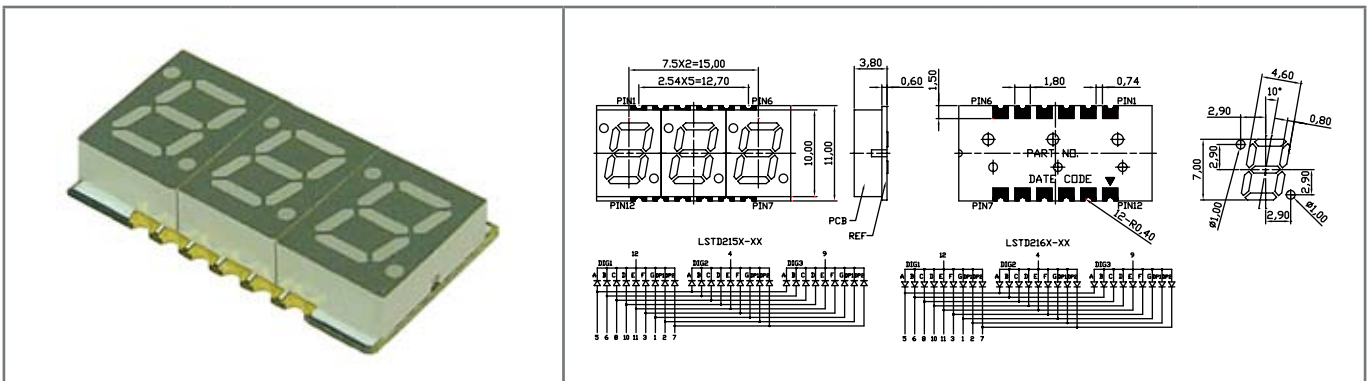


Part No	Chip			Vf(V)@20mA	lv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSTD205A-XX	AlGaInP	Green	570	2.1	6	CC
LSTD206A-XX						CA
LSTD2056F-XX	AlGaInP	Red	625	2.0	12	CC
LSTD2066F-XX						CA
LSTD2053V-XX	AlGaInP	Yellow	590	2.0	12	CC
LSTD2063V-XX						CA
LSTD205DGM-XX	InGaN	True Green	525	3.2	50	CC
LSTD206DGM-XX						CA
LSTD205DBK-XX	InGaN	Blue	470	3.2	20	CC
LSTD206DBK-XX						CA

**TRIPLE SMD DISPLAY**

0.28"

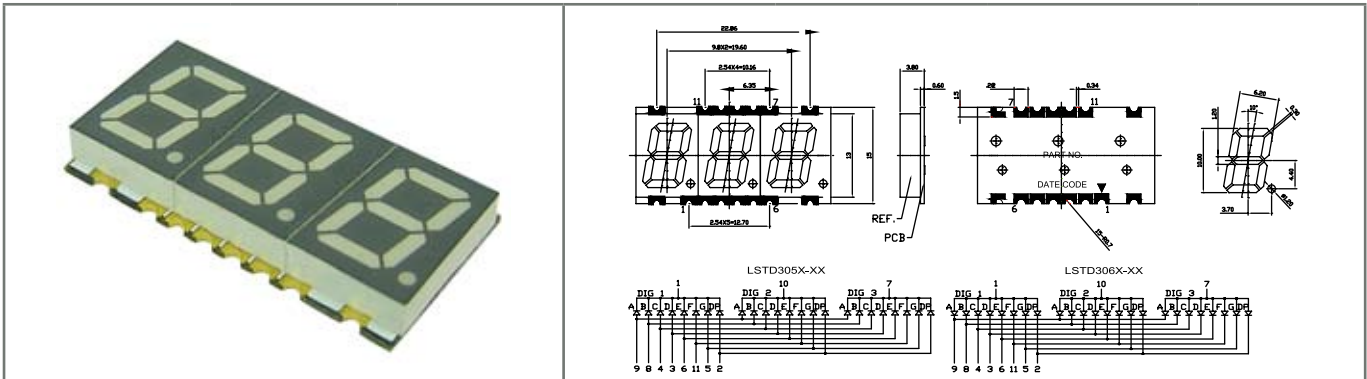
SMD DISPLAY



Part No	Chip			Vf(V)@20mA	lv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSTD215A-XX	AlGaInP	Green	570	2.1	6	CC
LSTD216A-XX						CA
LSTD2156F-XX	AlGaInP	Red	625	2.0	10	CC
LSTD2166F-XX						CA
LSTD2153V-XX	AlGaInP	Yellow	590	2.0	10	CC
LSTD2163V-XX						CA
LSTD215DGM-XX	InGaN	True Green	525	3.2	50	CC
LSTD216DGM-XX						CA
LSTD215DBK-XX	InGaN	Blue	470	3.2	20	CC
LSTD216DBK-XX						CA

TRIPLE SMD DISPLAY

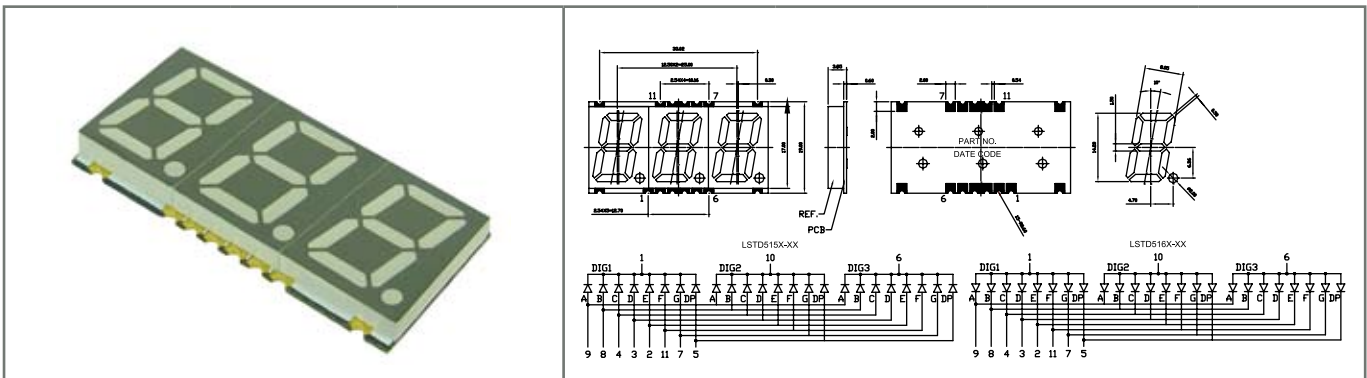
0.39"



Part No	Chip			Vf(V)@20mA	Iv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSTD305A-XX	AlGaInP	Green	570	2.1	12	CC
LSTD306A-XX						CA
LSTD3056F-XX	AlGaInP	Red	625	2.0	30	CC
LSTD3066F-XX						CA
LSTD3053V-XX	AlGaInP	Yellow	590	2.0	30	CC
LSTD3063V-XX						CA
LSTD305DGM-XX	InGaN	True Green	525	3.2	130	CC
LSTD306DGM-XX						CA
LSTD305DBK-XX	InGaN	Blue	470	3.2	40	CC
LSTD306DBK-XX						CA
LSTD305WK-XX	InGaN	White	-	3.2	100	CC
LSTD306WK-XX						CA

TRIPLE SMD DISPLAY

0.56"

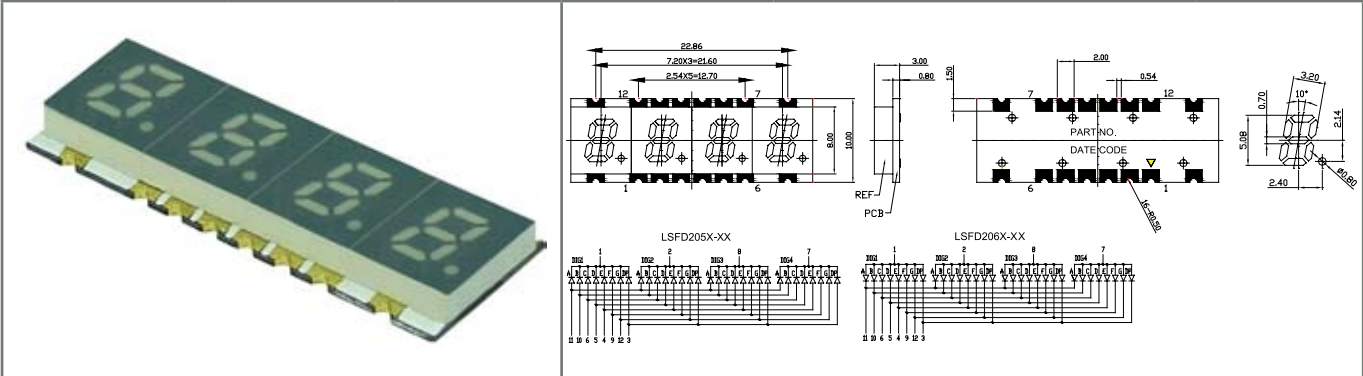


Part No	Chip			Vf(V)@20mA	Iv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSTD515A-XX	AlGaInP	Green	570	2.1	10	CC
LSTD516A-XX						CA
LSTD5156F-XX	AlGaInP	Red	625	2.0	25	CC
LSTD5166F-XX						CA
LSTD5153V-XX	AlGaInP	Yellow	590	2.0	25	CC
LSTD5163V-XX						CA
LSTD515DGM-XX	InGaN	True Green	525	3.2	90	CC
LSTD516DGM-XX						CA
LSTD515DBK-XX	InGaN	Blue	470	3.2	30	CC
LSTD516DBK-XX						CA
LSTD515WK-XX	InGaN	White	-	3.2	65	CC
LSTD516WK-XX						CA

SMD DISPLAY

**QUADRUPLE SMD DISPLAY**

0.2"

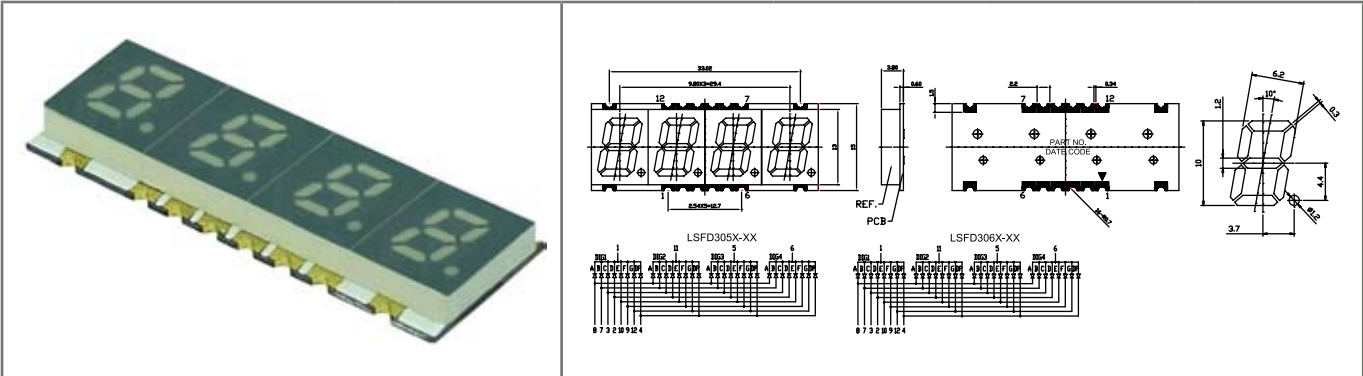


Part No	Chip			Vf(V)@20mA	lv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSFD205A-XX	AlGaInP	Green	570	2.1	6	CC
LSFD206A-XX						CA
LSFD2056F-XX	AlGaInP	Red	625	2.0	12	CC
LSFD2066F-XX						CA
LSFD2053V-XX	AlGaInP	Yellow	590	2.0	12	CC
LSFD2063V-XX						CA
LSFD205DGM-XX	InGaN	True Green	525	3.2	50	CC
LSFD206DGM-XX						CA
LSFD205DBK-XX	InGaN	Blue	470	3.2	20	CC
LSFD206DBK-XX						CA

**QUADRUPLE SMD DISPLAY**

0.28"

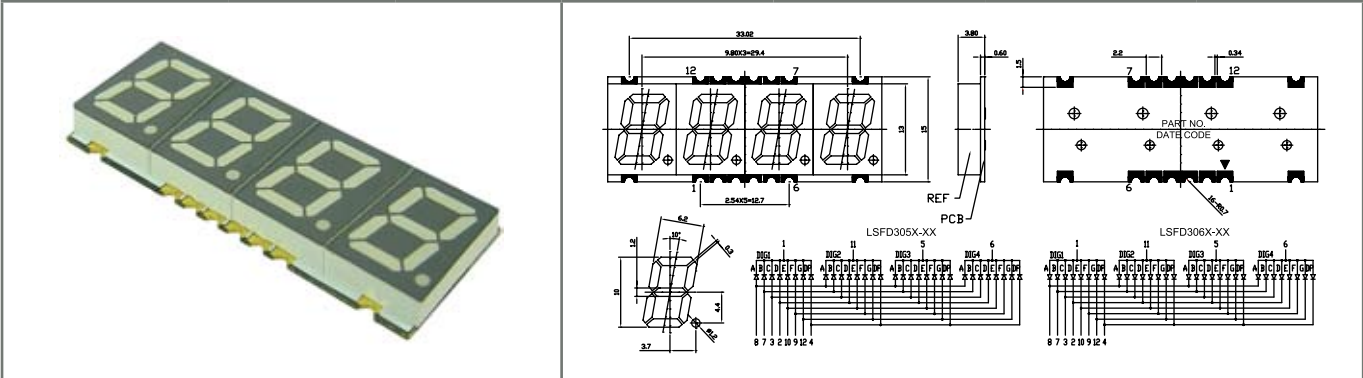
SMD DISPLAY



Part No	Chip			Vf(V)@20mA	lv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSFD215A-XX	AlGaInP	Green	570	2.1	6	CC
LSFD216A-XX						CA
LSFD2156F-XX	AlGaInP	Red	625	2.0	10	CC
LSFD2166F-XX						CA
LSFD2153V-XX	AlGaInP	Yellow	590	2.0	10	CC
LSFD2163V-XX						CA
LSFD215DGM-XX	InGaN	True Green	525	3.2	50	CC
LSFD216DGM-XX						CA
LSFD215DBK-XX	InGaN	Blue	470	3.2	20	CC
LSFD216DBK-XX						CA

**QUADRUPLE SMD DISPLAY**

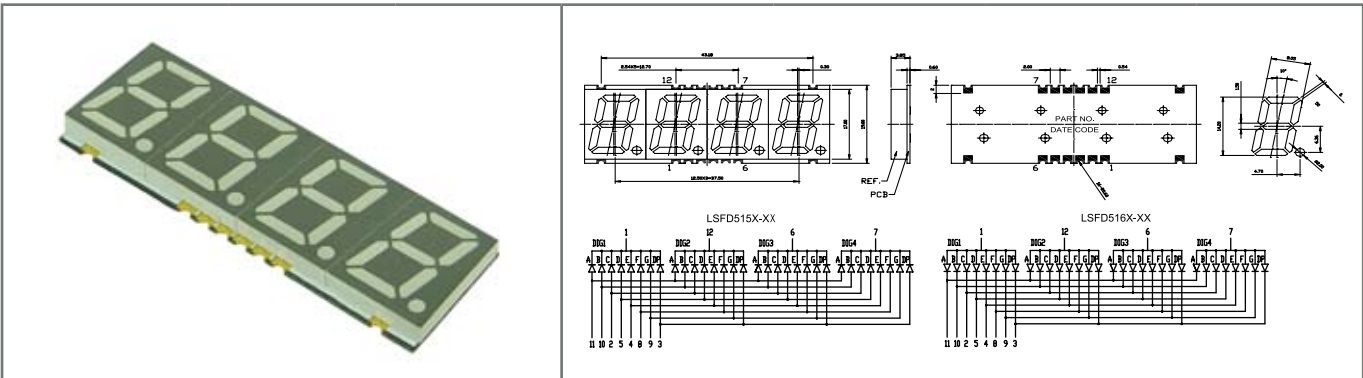
0.39"



Part No	Chip			Vf(V)@20mA	Iv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSFD305A-XX	AlGaInP	Green	570	2.1	12	CC
LSFD306A-XX						CA
LSFD3056F-XX	AlGaInP	Red	625	2.0	30	CC
LSFD3066F-XX						CA
LSFD3053V-XX	AlGaInP	Yellow	590	2.0	30	CC
LSFD3063V-XX						CA
LSFD305DGM-XX	InGaN	True Green	525	3.2	130	CC
LSFD306DGM-XX						CA
LSFD305DBK-XX	InGaN	Blue	470	3.2	40	CC
LSFD306DBK-XX						CA
LSFD305WK-XX	InGaN	White	-	3.2	100	CC
LSFD306WK-XX						CA

**QUADRUPLE SMD DISPLAY**

0.56"

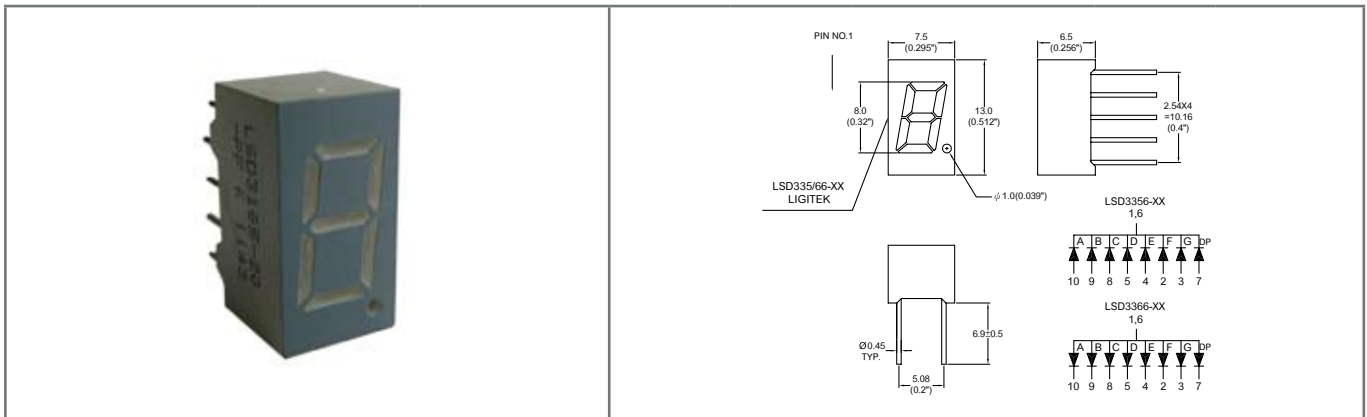


Part No	Chip			Vf(V)@20mA	Iv(mcd)@20mA	CC or CA
	Material	Emitted color	λD(nm)	Typ	Typ	
LSFD515A-XX	AlGaInP	Green	570	2.1	10	CC
LSFD516A-XX						CA
LSFD5156F-XX	AlGaInP	Red	625	2.0	25	CC
LSFD5166F-XX						CA
LSFD5153V-XX	AlGaInP	Yellow	590	2.0	25	CC
LSFD5163V-XX						CA
LSFD515DGM-XX	InGaN	True Green	525	3.2	90	CC
LSFD516DGM-XX						CA
LSFD515DBK-XX	InGaN	Blue	470	3.2	30	CC
LSFD516DBK-XX						CA
LSFD515WK-XX	InGaN	White	-	3.2	65	CC
LSFD516WK-XX						CA

**SMD DISPLAY**

SINGLE DIGIT DISPLAY

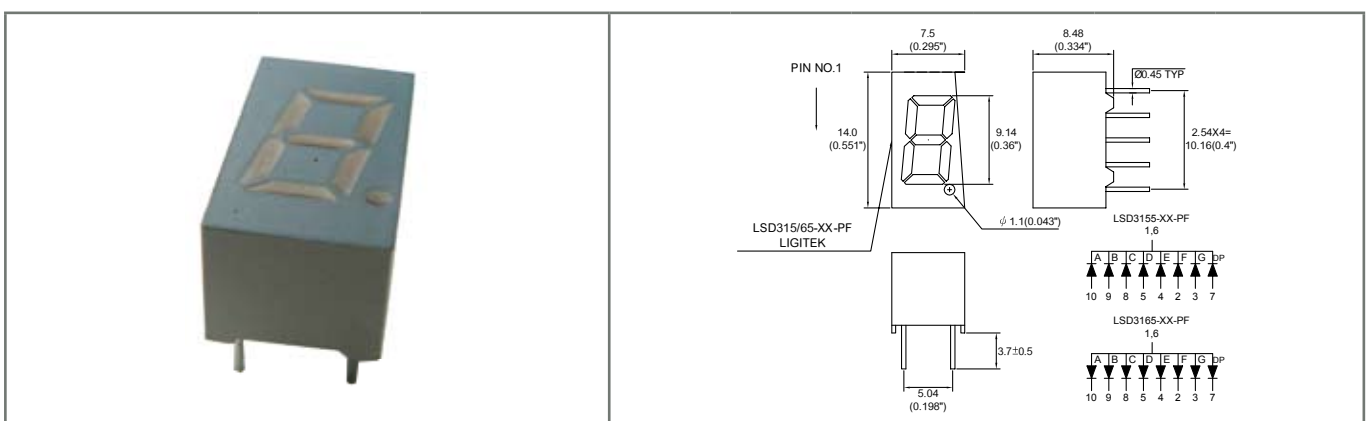
0.32"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P(\text{nm})$ * $\lambda D(\text{nm})$	Min	Max	Min	Typ	
LSD3352-XX	GaP	Green	565	1.7	2.6	1.75	3.5	CC
LSD3362-XX								CA
LSD3355-XX	GaAlAs	Red	660	1.5	2.4	3.05	5.0	CC
LSD3365-XX								CA
LSD3356-XX	GaAlAs	Red	660	1.5	2.4	4.0	7.2	CC
LSD3366-XX								CA
LSD3354-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.0	1.75	CC
LSD3364-XX								CA
LSD3353HS-XX/S1-PF	AlGaInP	Yellow	* 587	1.7	2.6	31 (20mA)	50 (20mA)	CC
LSD3363HS-XX/S1-PF								CA

SINGLE DIGIT DISPLAY

0.36"

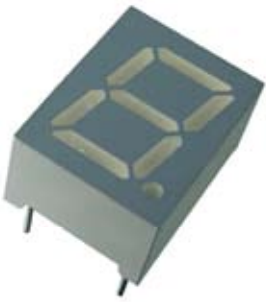


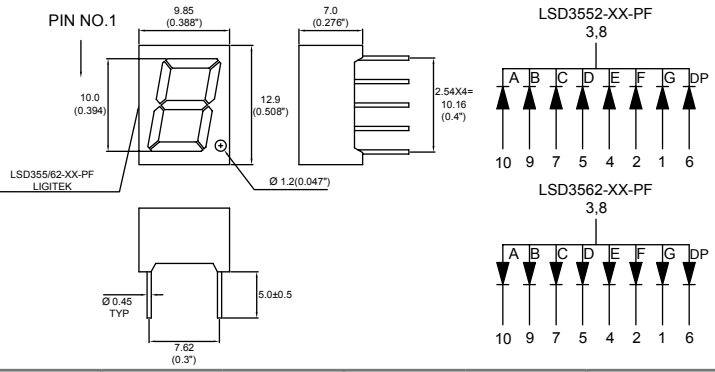
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P(\text{nm})$ * $\lambda D(\text{nm})$	Min	Max	Min	Typ	
LSD3152-XX-PF	GaP	Green	565	1.7	2.6	1.35	2.35	CC
LSD3162-XX-PF								CA
LSD3155-XX-PF	GaAlAs	Red	660	1.5	2.4	3.05	5.0	CC
LSD3165-XX-PF								CA
LSD3155F-XX-PF	AlGaInP	Red	* 630	1.5	2.4	4.0	6.1	CC
LSD3165F-XX-PF								CA

DIGIT DISPLAY

SINGLE DIGIT DISPLAY

0.39"




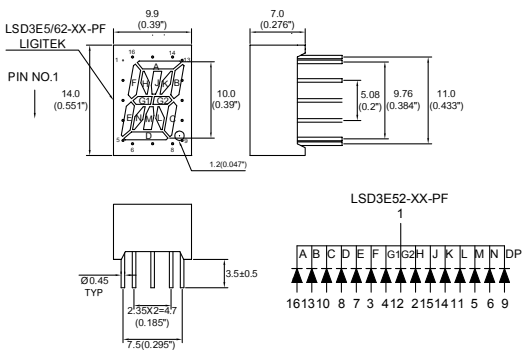


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA * @20mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LSD3552-XX-PF	GaP	Green	565	1.7	2.6	1.75	3.5	CC
LSD3562-XX-PF								CA
LSD3555-XX-PF	GaAlAs	Red	660	1.5	2.4	4.0	7.2	CC
LSD3565-XX-PF								CA
LSD3556F-XX	AlGaInP	Red	* 630	1.5	2.4	8.5	12.8	CC
LSD3566F-XX								CA
LSD3553HS-XX	AlGaInP	Yellow	* 587	1.7	2.6	* 18	* 31	CC
LSD3563HS-XX								CA
LSD355DBK-XX-PF	InGaN	Blue	* 470	2.8	3.8	18	26	CC
LSD356DBK-XX-PF								CA

SINGLE DIGIT DISPLAY

0.39"



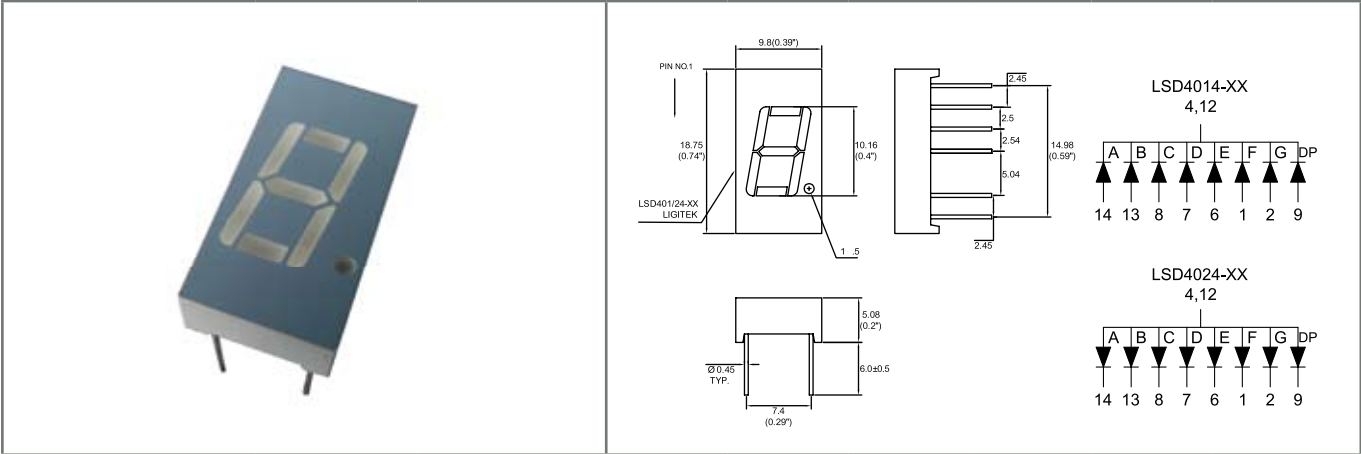


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LSD3E52-XX-PF	GaP	Green	565	1.5	2.4	1.0	1.75	CC
LSD3E62-XX-PF								CA
LSD3E53HS-XX	AlGaInP	Yellow	* 587	1.7	2.8	Segment 20      33 Decimal 6.5    11		CC

DIGIT DISPLAY

**SINGLE DIGIT DISPLAY**

0.4"

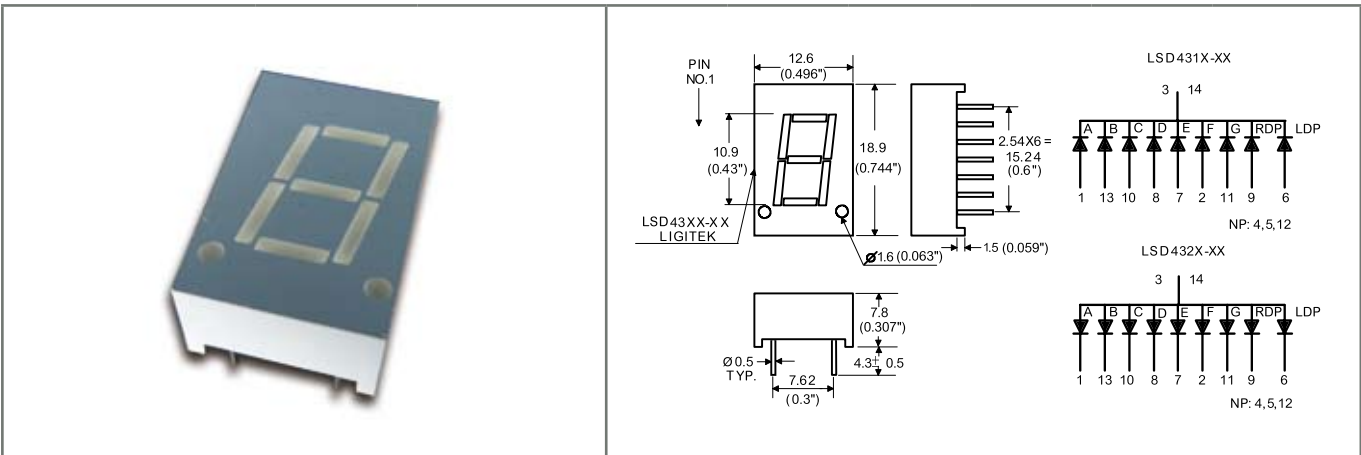


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LSD4012-XX	GaP	Green	565	1.7	2.6	1.75	3.05	CC
LSD4022-XX								CA
LSD4014-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.35	2.35	CC
LSD4024-XX								CA

**SINGLE DIGIT DISPLAY**

0.43"

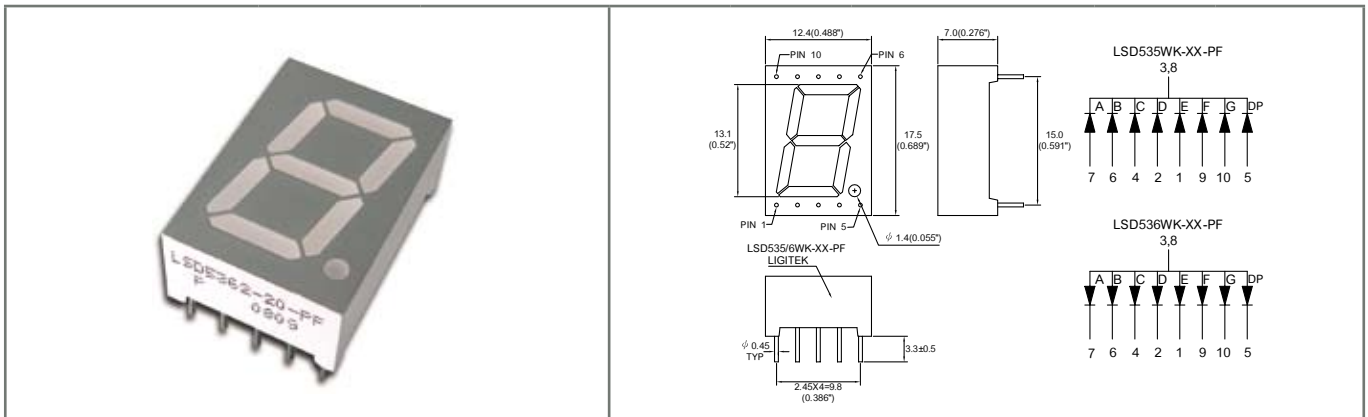
DIGIT DISPLAY



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LSD4312-XX	GaP	Green	565	1.7	2.8	1.5	2.8	CC
LSD4322-XX								CA
LSD4315-XX	GaAlAs	Red	660	1.5	2.4	3.0	5.5	CC
LSD4325-XX								CA
LSD4314-XX	GaAsP/GaP	Orange Red	635	1.7	2.8	1.8	3.0	CC
LSD4324-XX								CA

SINGLE DIGIT DISPLAY

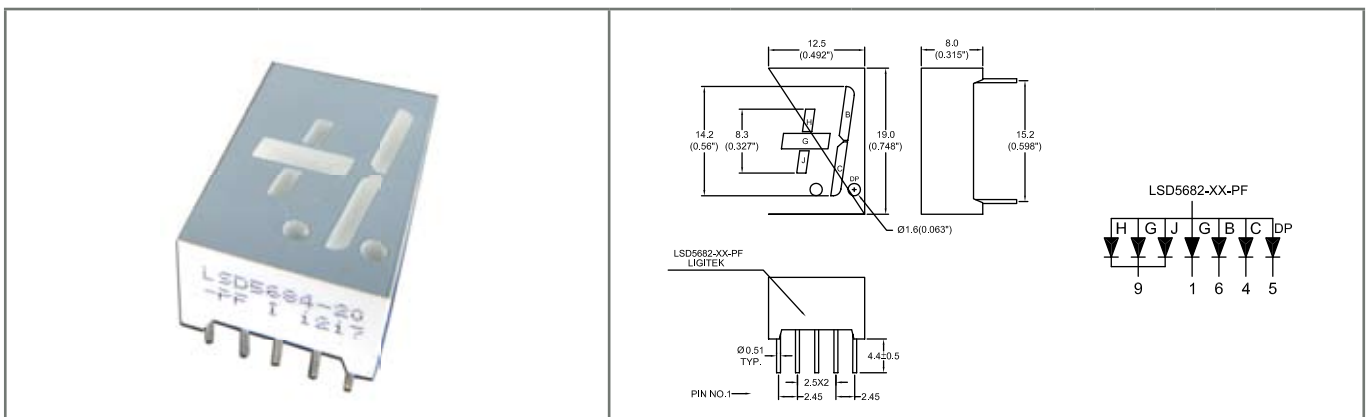
0.52"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda$ P(nm) * $\lambda$ D(nm)	Min	Max	Min	Typ	
LSD5352-XX	GaP	Green	565	1.7	2.8	2.35	4.0	CC
LSD5362-XX								CA
LSD5355-XX	GaAlAs	Red	660	1.5	2.4	6.1	10.5	CC
LSD5365-XX								CA
LSD5354-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	3.05	5.0	CC
LSD5364-XX								CA
LSD535DBK-XX	InGaN	Blue	* 470	2.8	3.8	18	31	CC
LSD536DBK-XX								CA
LSD535WK-XX-PF	InGaN	Blue	X:0.28 Y:0.28	3.5	4.0	31	43	CC
LSD536WK-XX-PF								CA

SINGLE DIGIT DISPLAY

0.56"

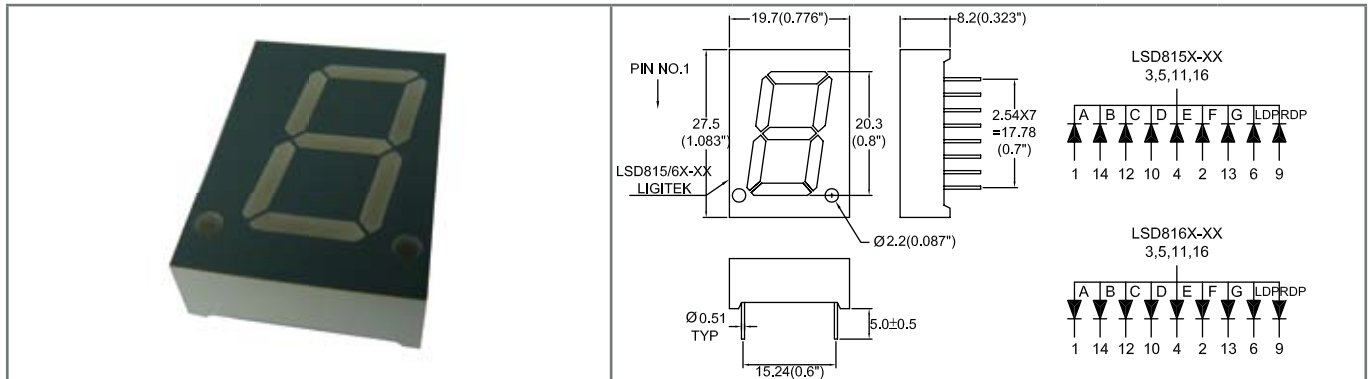


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda$ P(nm)	Min	Max	Min	Typ	
LSD5682-XX	GaP	Green	565	1.7	2.6	1.0	1.75	CA
LSD5682V-XX	GaP	Green	565	1.7	2.8	1.6	2.8	
LSD5685-XX	GaAlAs	Red	660	1.5	2.4	2.0	3.5	
LSD5684-XX	GaAsP/GaP	Orange Red	635	1.7	2.8	0.8	1.35	



SINGLE DIGIT DISPLAY

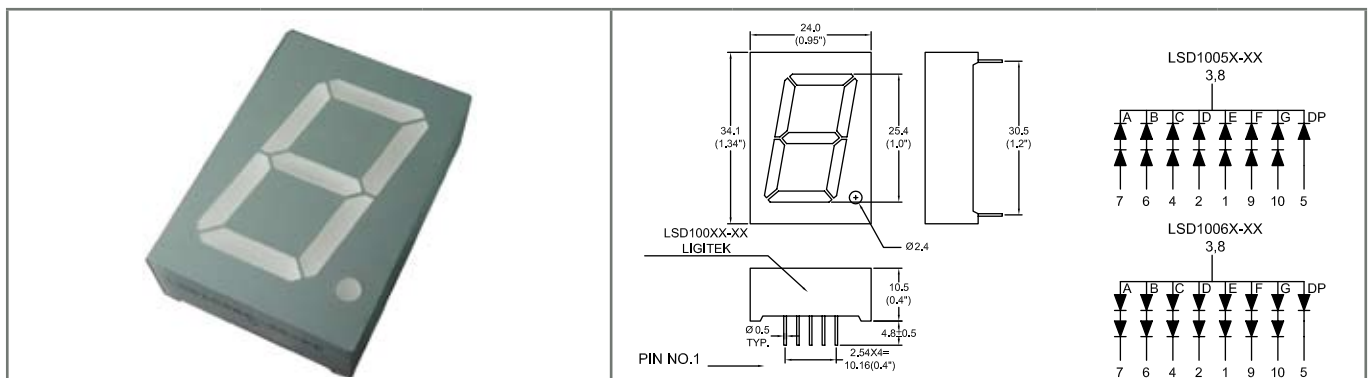
0.8"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LSD8152-XX	GaP	Green	565	1.7	2.6	2.35	4.0	CC
LSD8162-XX								CA
LSD8155-XX	GaAlAs	Red	660	1.5	2.4	6.1	10.5	CC
LSD8165-XX								CA
LSD8154-XX	GaAsP/GaP	Orange Red	635	1.7	2.8	1.75	3.05	CC
LSD8164-XX								CA
LSD8152U-XX-PF	AlGalnp	Green	* 574	1.7	2.6	10.5	15.25	CC
LSD8162U-XX-PF								CA
LSD815DBK-XX	InGaN	Blue	* 470	2.8	3.8	18	26	CC
LSD816DBK-XX								CA

SINGLE DIGIT DISPLAY

1.0"

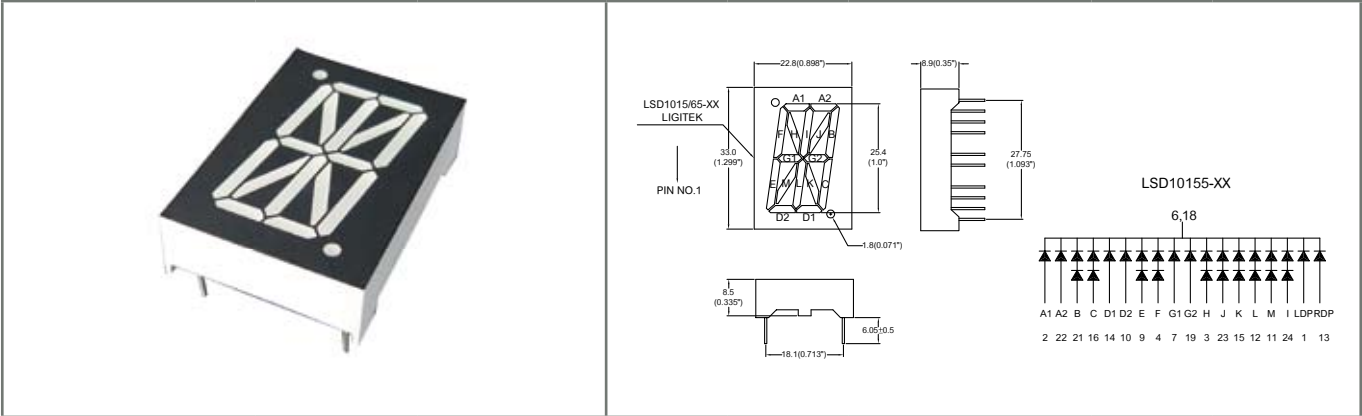


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LSD10052-XX	GaP	Green	565	3.4	5.6	5	8	CC
LSD10062-XX								CA
LSD 10055-XX	GaAlAs	Red	660	3.0	4.8	10.5	18	CC
LSD10065-XX								CA
LSD10056-XX	GaAlAs	Red	660	3.0	4.8	15.25	26	CC
LSD10066-XX								CA
LSD10054-XX	GaAsP/GaP	Orange Red	635	3.4	5.6	6.0	10.0	CC
LSD10064-XX								CA
LSD10052U-XX-PF	AlGalnp	Green	* 574	3.4	5.2	8.5	15.25	CC
LSD10062U-XX-PF								CA

DIGIT DISPLAY

**SINGLE DIGIT DISPLAY**

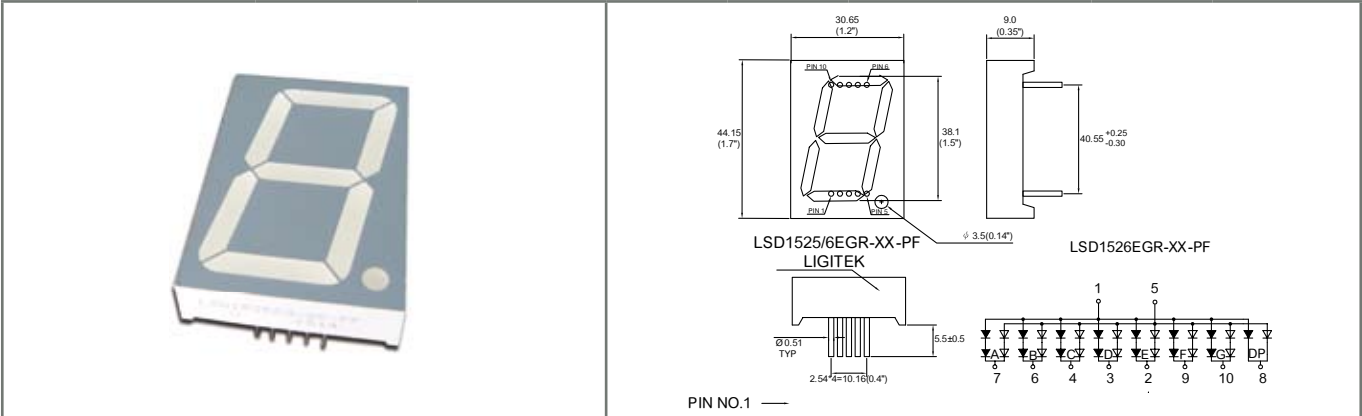
1.0"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda_P$ (nm) * $\lambda_D$ (nm)	Min	Max	Min	Typ	
LSD10152-XX	GaP	Green	565	1.7	2.6	1.75	3.05	CC
LSD10162-XX								CA
LSD10155-XX	GaAlAs	Red	660	1.5	2.4	2.35	4.0	CC
LSD10165-XX								CA
LSD10154-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.75	3.05	CC
LSD10164-XX								CA
LSD10156F-XX	AlGalnp	Red	* 630	1.5	2.4	12.8	21.5	CC
LSD10166F-XX								CA

**SINGLE DIGIT DISPLAY**

1.5"

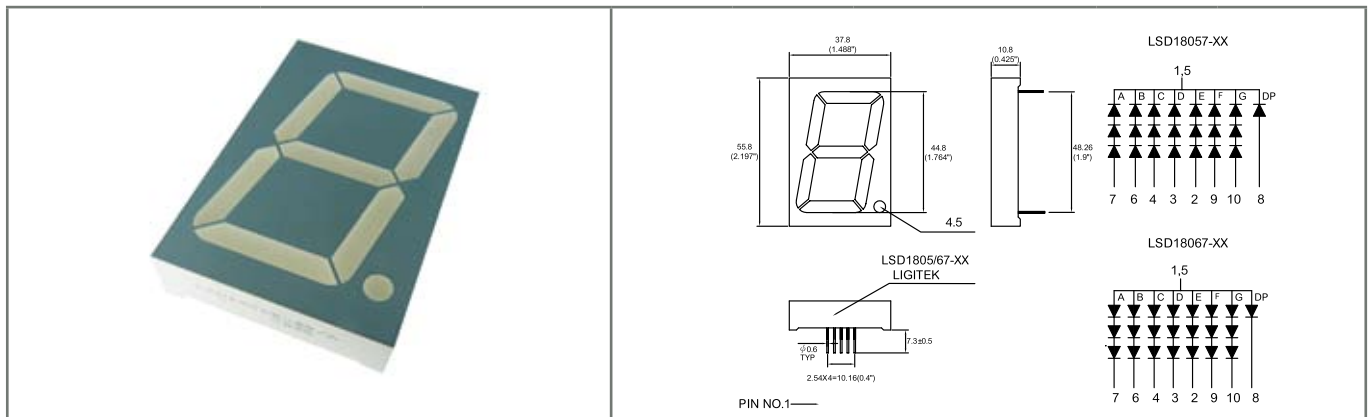


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda_P$ (nm)	Min	Max	Min	Typ	
LSD1525EGR-XX	GaAsP/GaP	Orange	635	3.4	5.2	10.5	18	CC
	GaP	Green	565	3.4	5.2	8.5	15.25	
LSD1526EGR-XX	GaAsP/GaP	Orange	635	3.4	5.2	10.5	18	CA
	GaP	Green	565	3.4	5.2	8.5	15.25	

**DIGIT DISPLAY**

SINGLE DIGIT DISPLAY

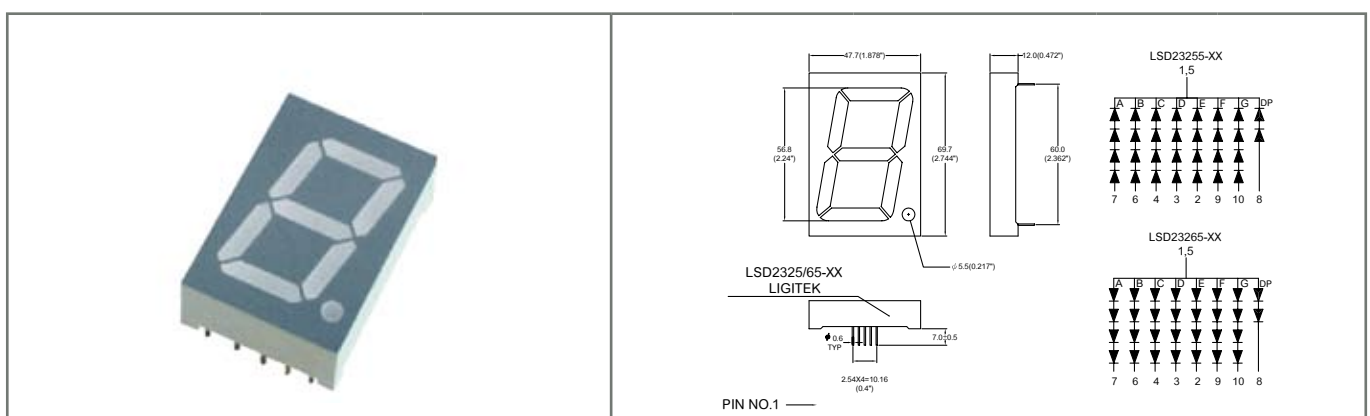
1.8"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LSD18052-XX	GaP	Green	565	5.1	7.8	7.2	12.8	CC
LSD18062-XX								CA
LSD18055-XX	GaAlAs	Red	660	4.5	7.2	12.8	21.8	CC
LSD18065-XX								CA
LSD18056-XX	GaAlAs	Red	660	4.5	7.2	21.5	37	CC
LSD18066-XX								CA
LSD18057-XX	GaAlAs	Red	660	4.5	7.2	43	78.5	CC
LSD18067-XX								CA
LSD18054-XX	GaAsP/GaP	Orange Red	635	5.1	7.8	8.5	15.25	CC
LSD18064-XX								CA

SINGLE DIGIT DISPLAY

2.3"

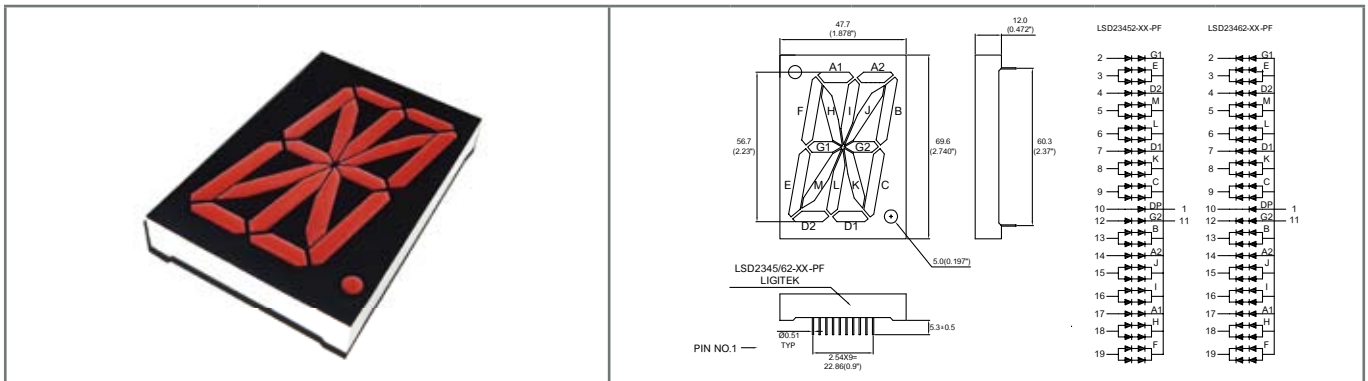


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LSD23252-XX	GaP	Green	565	6.8	10.4	10.5	18	CC
LSD23262-XX								CA
LSD23255-XX	GaAlAs	Red	660	6.0	9.6	18	31	CC
LSD23265-XX								CA
LSD23256-XX	GaAlAs	Red	660	6.0	9.6	26	50	CC
LSD23266-XX								CA
LSD23254-XX	GaAsP/GaP	Orange Red	635	6.8	10.4	10.5	18	CC
LSD23264-XX								CA

DIGIT DISPLAY

SINGLE DIGIT DISPLAY

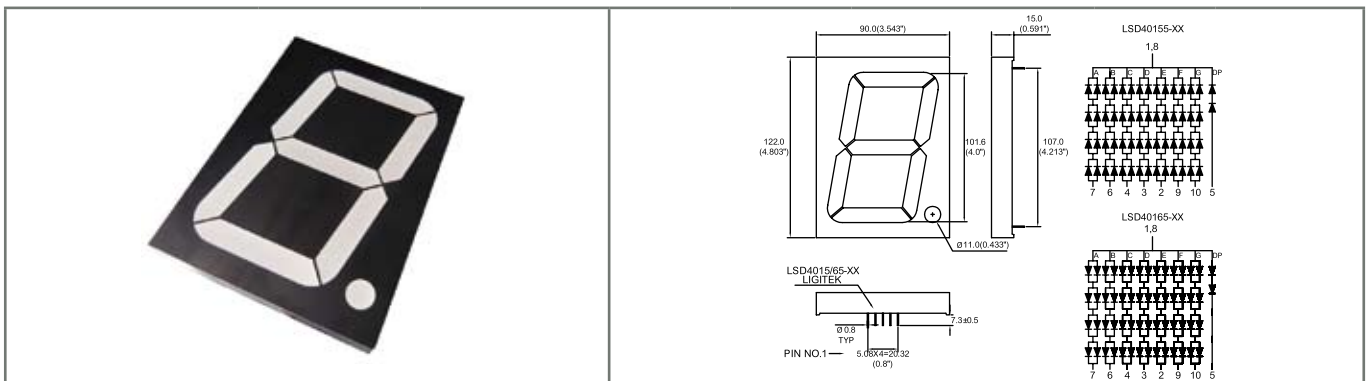
2.3"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LSD23452-XX	GaP	Green	565	3.4	5.2	12.8	18	CC
LSD23462-XX								CA
LSD23455-XX	GaAlAs	Red	660	3.0	4.8	8.5	15.25	CC
LSD23465-XX								CA
LSD23454-XX	GaAsP/GaP	Orange Red	635	3.4	5.2	7.2	12.8	CC
LSD23464-XX								CA
LSD23453-XX	GaAsP/GaP	Yellow	585	3.4	5.2	6.1	10.5	CC
LSD23463-XX								CA

SINGLE DIGIT DISPLAY

4.0"

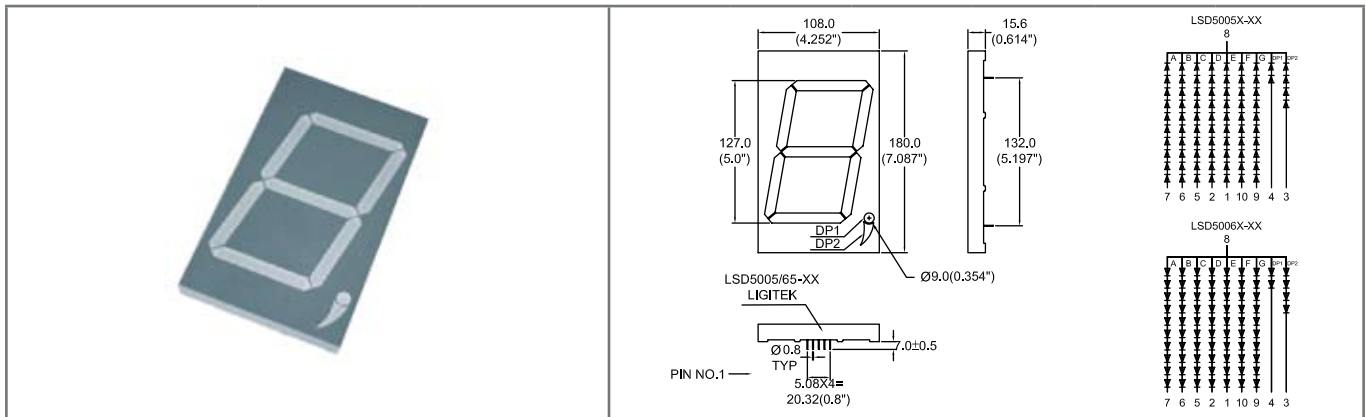


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm) * λD(nm)	Min	Max	Min	Typ	
LSD40152-XX	GaP	Green	565	6.8	10.4	12.8	21.5	CC
LSD40162-XX								CA
LSD40155-XX	GaAlAs	Red	660	6.0	9.6	10.5	15.25	CC
LSD40165-XX								CA
LSD40156-XX	GaAlAs	Red	660	6.0	9.6	26	43	CC
LSD40166-XX								CA
LSD40154-XX	GaAsP/GaP	Orange	635	6.8	10.4	12.8	21.5	CC
LSD40164-XX								CA
LSD40156F-XX	AlGalnP	Red	* 630	6.0	9.6	37	50	CC
LSD40166F-XX								CA
LSD40153HS-XX	AlGalnP	Yellow	* 587	6.8	10.4	21.5	37	CC
LSD40166HS-XX								CA
LSD4015WK-XX	InGaN	White	X0.28 Y0.28	-	8.0	43	50	CC
LSD4016WK-XX								CA

DIGIT DISPLAY

## SINGLE DIGIT DISPLAY

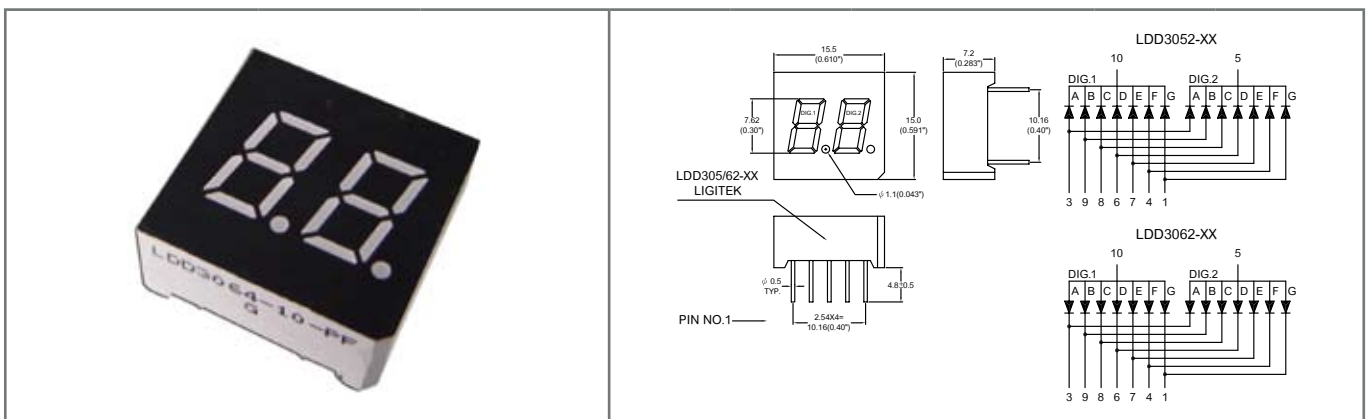
5.0"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda$ P(nm)	Min	Max	Min	Typ	
LSD50052-XX	GaP	Green	565	17	28	7.2	12.8	CC
LSD50062-XX								CA
LSD50055-XX	GaAlAs	Red	660	15	24	26	45	CC
LSD50065-XX								CA
LSD50054-XX	GaAsP/GaP	Orange Red	635	17	28	18	35	CC
LSD50064-XX								CA

## DOUBLE DIGIT DISPLAY

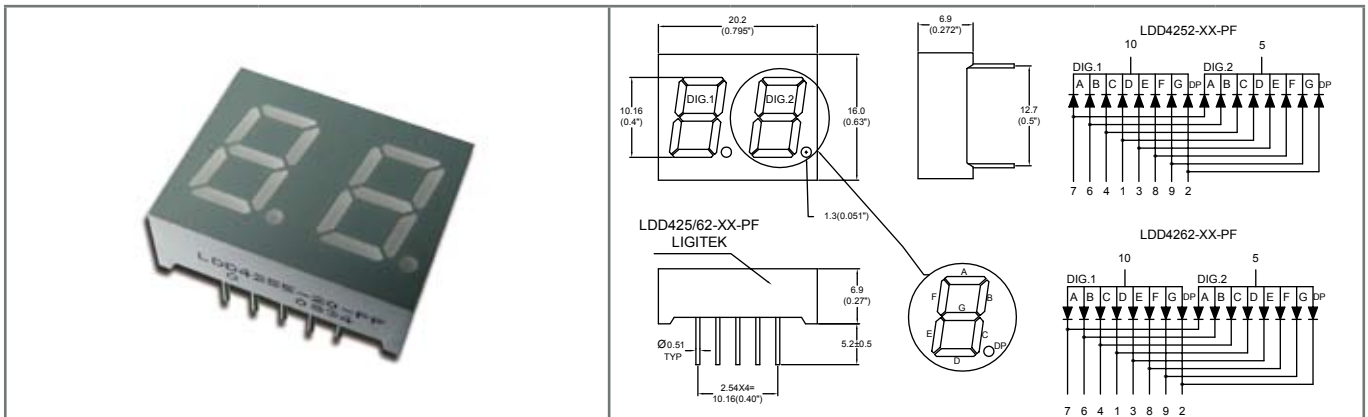
0.3"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda$ P(nm)	Min	Max	Min	Typ	
LDD3052-XX	GaP	Green	565	1.7	2.6	1.0	1.75	CC
LDD3062-XX								CA
LDD3055-XX	GaAlAs	Red	660	1.5	2.4	1.35	2.35	CC
LDD3065-XX								CA
LDD3054-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	0.8	1.35	CC
LDD3064-XX								CA
LDD3056F-XX	AlGalnp	Red	* 630	1.5	2.4	7.2	12.8	CC
LDD3066F-XX								CA
LDD325DBK-XX	InGaN	Blue	* 470	2.8	3.8	6.1	8.5	CC
LDD326DBK-XX								CA

### DOUBLE DIGIT DISPLAY

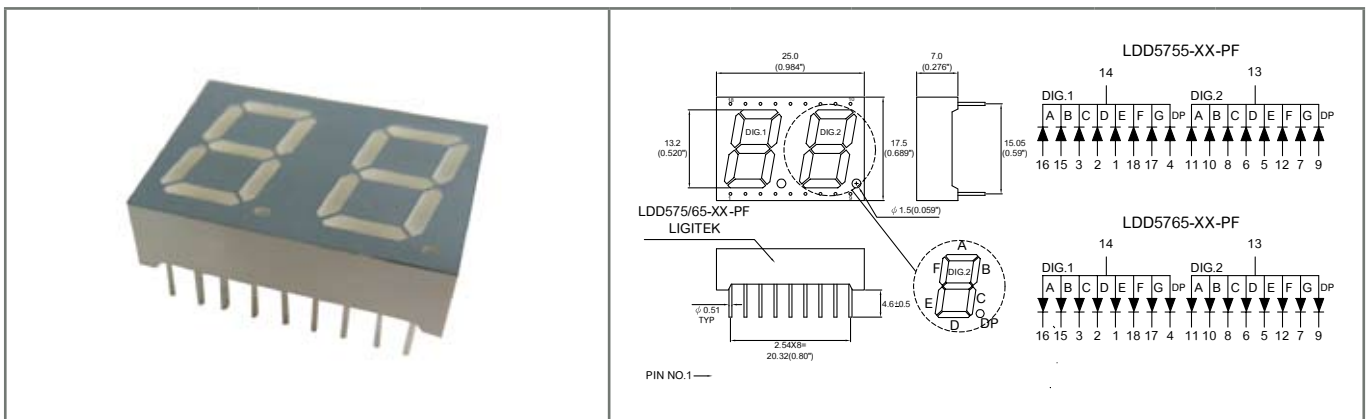
0.4"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda_P$ (nm) * $\lambda_D$ (nm)	Min	Max	Min	Typ	
LDD4252-XX	GaP	Green	565	1.7	2.6	2.35	4.0	CC
LDD4262-XX								CA
LDD4255-XX	GaAlAs	Red	660	1.5	2.4	1.75	3.05	CC
LDD4265-XX								CA
LDD4254-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	0.8	1.35	CC
LDD4264-XX								CA
LDD4256F-PF	AlGalnp	Red	* 630	1.5	2.4	18	34	CC
LDD4266F-PF								CA

### DOUBLE DIGIT DISPLAY

0.52"

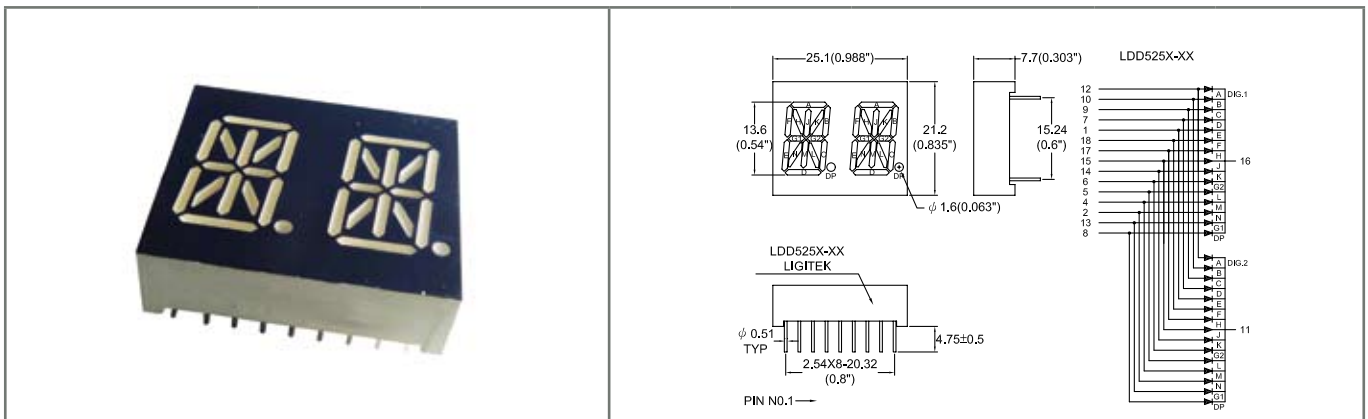


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda_P$ (nm)	Min	Max	Min	Typ	
LDD5752-XX	GaP	Green	565	1.7	2.6	2.35	4.0	CC
LDD5762-XX								CA
LDD5755-XX	GaAlAs	Red	660	1.5	2.4	4.0	6.1	CC
LDD5765-XX								CA
LDD5754-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.75	3.05	CC
LDD5764-XX								CA
LDD5753-XX	GaAsP/GaP	Yellow	585	1.7	2.6	1.75	3.05	CC
LDD5763-XX								CA

DIGIT DISPLAY

DOUBLE DIGIT DISPLAY

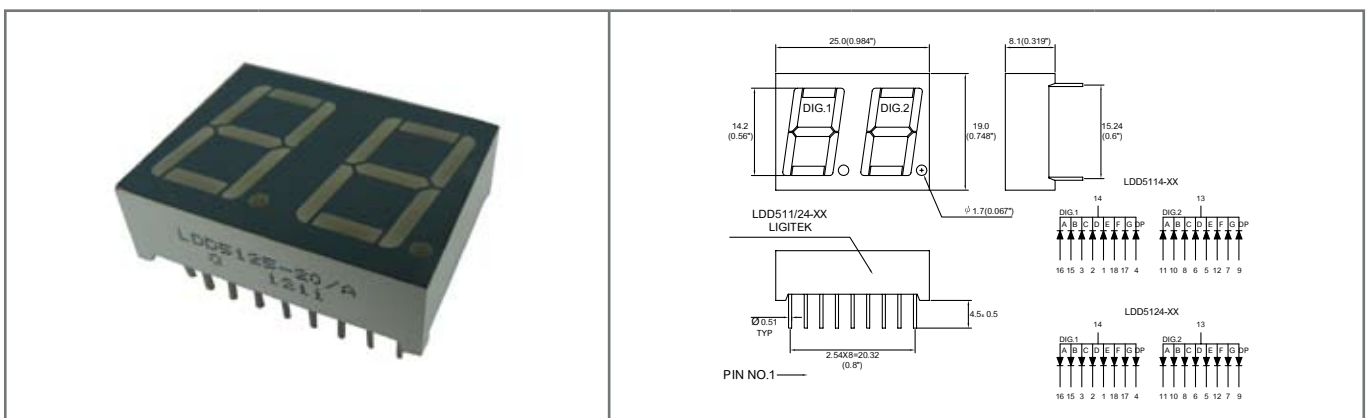
0.56"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LDD5252-XX	GaP	Green	565	1.7	2.6	1.35	2.8	CC
LDD5262-XX								CA
LDD5255-XX	GaAlAs	Red	660	1.5	2.4	3.05	5.0	CC
LDD5265-XX								CA
LDD5254-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.75	3.05	CC
LDD5264-XX								CA
LDD5255F-XX	AlGalnp	Red	* 630	1.5	2.4	7.2	10.5	CC
LDD5265F-XX								CA

DOUBLE DIGIT DISPLAY

0.56"

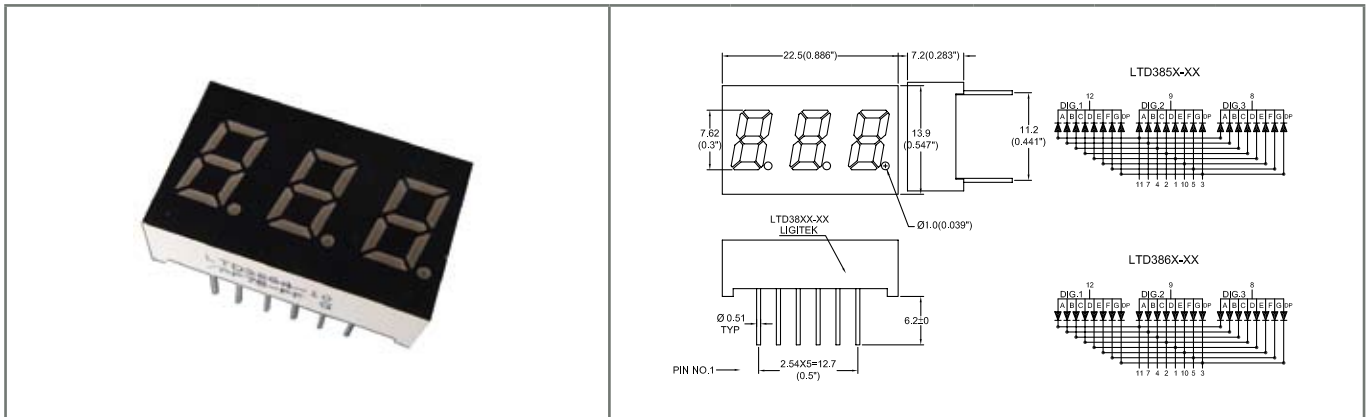


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LDD5112-XX	GaP	Green	565	1.7	2.6	4.0	6.1	CC
LDD5122-XX								CA
LDD5115-XX	GaAlAs	Red	660	1.5	2.4	1.75	3.05	CC
LDD5125-XX								CA
LDD5114-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.75	3.05	CC
LDD5124-XX								CA
LDD511DBK-XX	InGaN	Blue	* 470	2.8	3.8	18	31	CC
LDD5112DBK-XX								CA

DIGIT DISPLAY

TRIPLE DIGIT DISPLAY

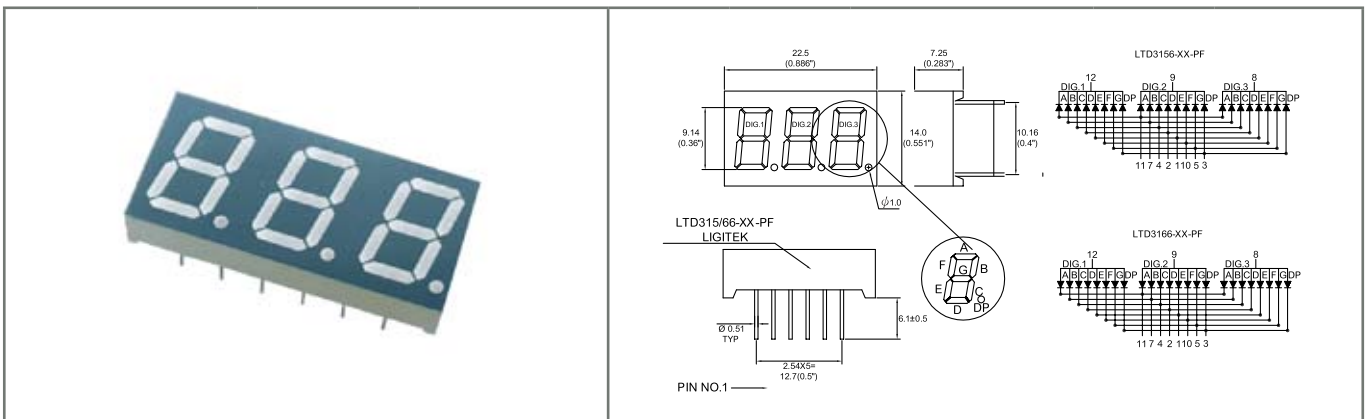
0.3"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm)	Min	Max	Min	Typ	
LTD3855-XX	GaAlAs	Red	660	1.5	2.4	1.35	2.35	CC
LTD3865-XX								CA
LTD3854-XX	GaAsP/GaP	Orange Red	635	1.7	2.8	0.3	0.6	CC
LTD3864-XX								CA

TRIPLE DIGIT DISPLAY

0.36"



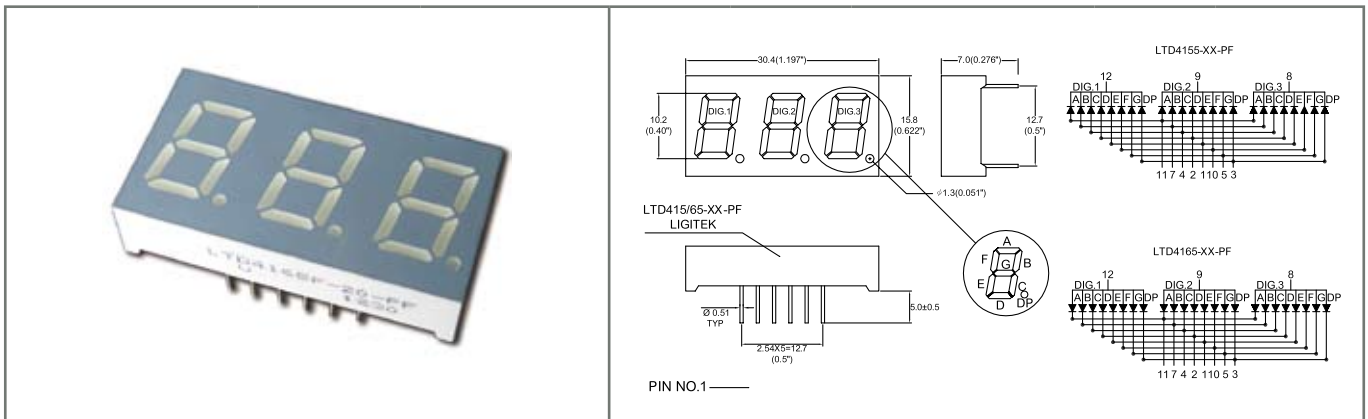
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LTD3152-XX	GaP	Green	565	1.7	2.6	1.0	2.0	CC
LTD3162-XX								CA
LTD3155-XX	GaAlAs	Red	660	1.5	2.4	1.75	3.05	CC
LTD3165-XX								CA
LTD3154-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.0	2.0	CC
LTD3164-XX								CA
LTD3156F-XX-PF	AlGalnP	Red	* 630	1.5	2.4	7.2	10.5	CC
LTD3166F-XX-PF								CA

DIGIT DISPLAY



TRIPLE DIGIT DISPLAY

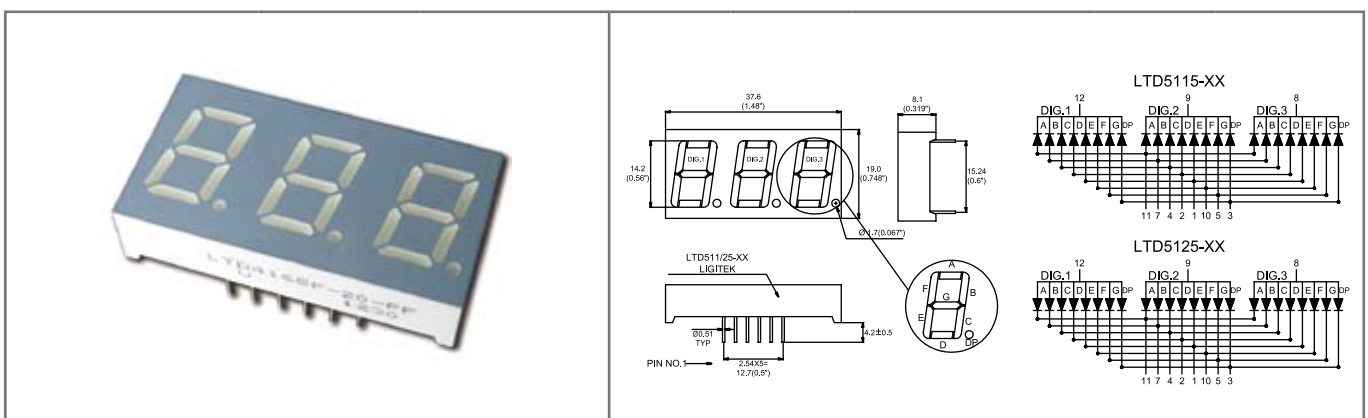
0.4"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LTD4152-XX	GaP	Green	565	1.7	2.6	1.75	3.05	CC
LTD4162-XX								CA
LTD4155-XX	GaAlAs	Red	660	1.5	2.4	5.0	8.5	CC
LTD4165-XX								CA
LTD4156F-XX-PF	AlGalnp	Red	* 630	1.5	2.4	21.5	31.0	CC
LTD4166F-XX-PF								CA
LTD4154-XX	GaAsP/GaP	Orange Red	* 635	1.7	2.6	1	1.75	CC
LTD4164-XX								CA

TRIPLE DIGIT DISPLAY

0.56"

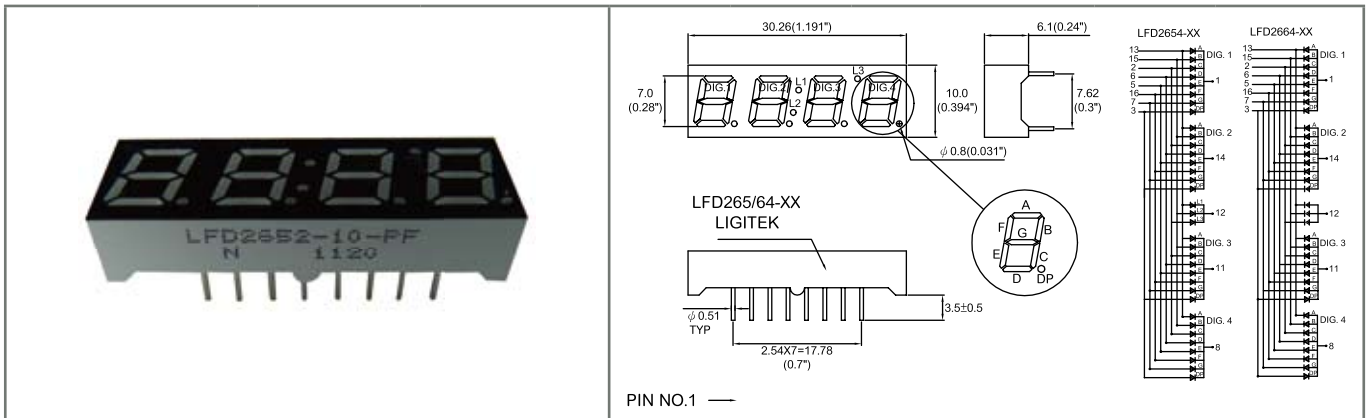


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LTD5112-XX	GaP	Green	565	1.7	2.6	2.35	4.0	CC
LTD5122-XX								CA
LTD5115-XX	GaAlAs	Red	660	1.5	2.4	4.0	7.2	CC
LTD5125-XX								CA
LTD5116F-XX-PF	AlGalnp	Red	* 630	1.5	2.4	15.25	26	CC
LTD5126F-XX-PF								CA
LTD5114-XX	GaAsP/GaP	Orange Red	* 635	1.7	2.6	2.35	4.0	CC
LTD5124-XX								CA

DIGIT DISPLAY

QUADRUPLE DIGIT DISPLAY

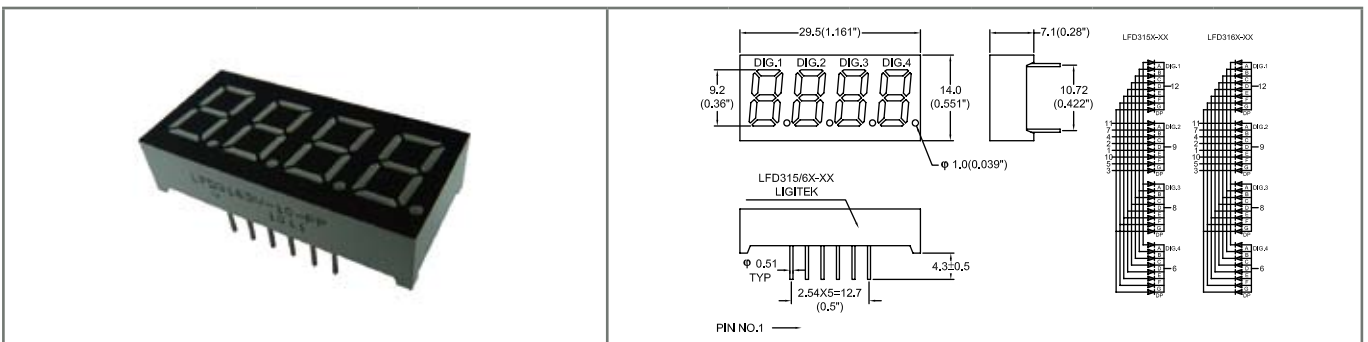
0.28"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LFD2652-XX-PF	GaP	Green	565	1.7	2.6	1.75	3.05	CC
LFD2662-XX-PF								CA
LFD2652U-PF	AlGaInp	Green	* 574	1.7	2.6	5.0	8.5	CC
LFD2662U-PF								CA
LFD2655-XX	GaAlAs	Red	660	1.5	2.4	3.05	5.0	CC
LFD2665-XX								CA
LFD2656F-XX-PF	AlGaInp	Red	* 630	1.5	2.4	12.8	21.5	CC
LFD2666F-XX-PF								CA
LFD2654-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.0	1.75	CC
LFD2664-XX								CA
LFD255DBK-XX	In/GaN	Blue	* 470	-	4.0	24	40	CC
LFD265DBK-XX								CA

QUADRUPLE DIGIT DISPLAY

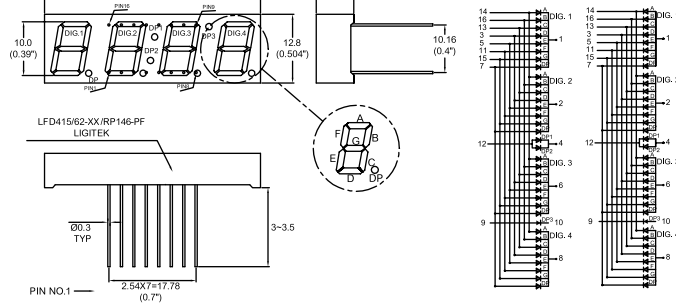
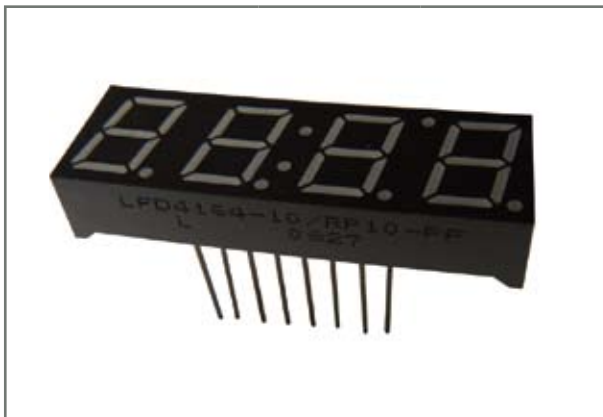
0.36"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LFD3152-XX	GaP	Green	565	1.7	2.6	1.0	1.75	CC
LFD3162-XX								CA
LFD3152U-XX-PF	AlGaInp	Green	* 574	1.7	2.6	8.5	12.8	CC
LFD3162U-XX-PF								CA
LFD3155-XX	GaAlAs	Red	660	1.5	2.4	2.35	4.0	CC
LFD3165-XX								CA
LFD3156F-XX-PF	AlGaInp	Red	* 630	1.5	2.4	8.5	12.8	CC
LFD3166F-XX-PF								CA
LFD3153V-XX-PF	AlGaInp	Yellow	* 590	1.7	2.6	21.5	37	CC
LFD3163V-XX-PF								CA

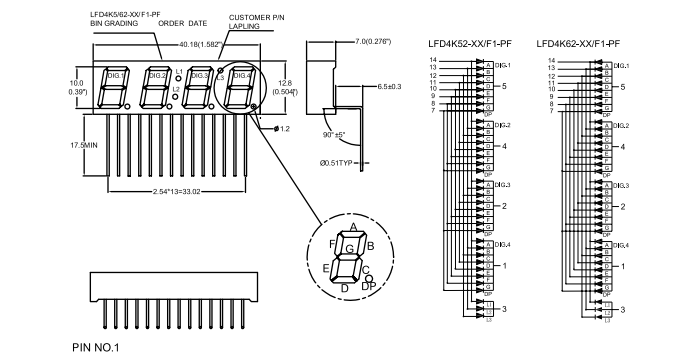
DIGIT DISPLAY

**QUADRUPLE DIGIT DISPLAY 0.39"**



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P(nm)$ * $\lambda D(nm)$	Min	Max	Min	Typ	
LFD4152-XX	GaP	Green	565	1.7	2.6	1.75	3.05	CC
LFD4162-XX								CA
LFD4152U-XX	AlGalnp	Green	* 574	1.7	2.6	12.8	21.5	CC
LFD4162U-XX								CA
LFD4155-XX	GaAlAs	Red	660	1.5	2.4	3.05	5.0	CC
LFD4165-XX								CA
LFD4156F-XX-PF	AlGalnp	Red	*630	1.5	2.4	12.8	21.5	CC
LFD4166F-XX-PF								CA
LFD4153HS-XX-PF	AlGalnp	Yellow	* 587	1.7	2.6	12.8	18	CC
LFD4163HS-XX-PF								CA
LFD4156DBK-XX	InGaN	Blue	* 470	-	4.0	15.25	26	CC
LFD4166DBK-XX								CA
LFD4156WK-XX	InGaN	White	X0.28 Y0.28	-	4.0	58	91	CC
LFD4166WK-XX								CA

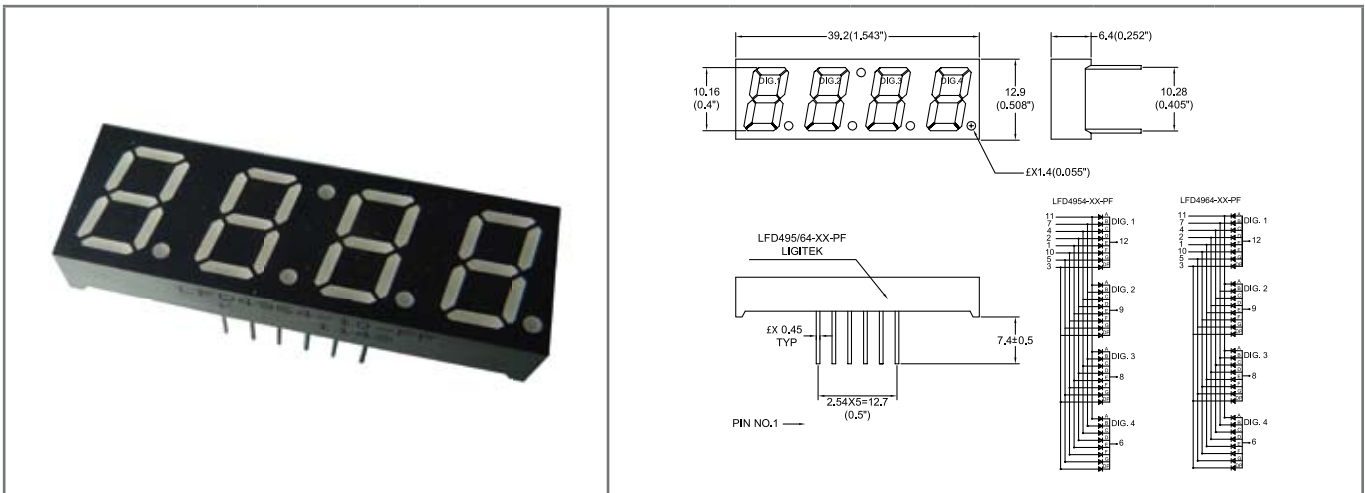
DIGIT DISPLAY



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P(nm)$ * $\lambda D(nm)$	Min	Max	Min	Typ	
LFD4K52-XX/F1-PF	GaP	Green	565	1.7	2.6	1.35	2.35	CC
LFD4K62-XX/F1-PF								CA
LFD4K56-XX/S5-PF	GaAlAs	Red	660	1.5	2.4	5.0	8.5	CC
LFD4K66-XX/S5-PF								CA
LFD4K57-XX/S5-PF	GaAlAs	Red	660	1.5	2.4	6.1	10.5	CC
LFD4K67-XX/S5-PF								CA
LFD4K59-XX/F4-PF	AlGalnp	Orange	*605	1.7	2.6	15.25	26	CC
LFD4K69-XX/F4-PF								CA
LFD4K53HS-XX/F1-PF	AlGalnp	Yellow	* 587	1.7	2.6	12.8	17	CC
LFD4K63HS-XX/F1-PF								CA

## QUADRUPLE DIGIT DISPLAY

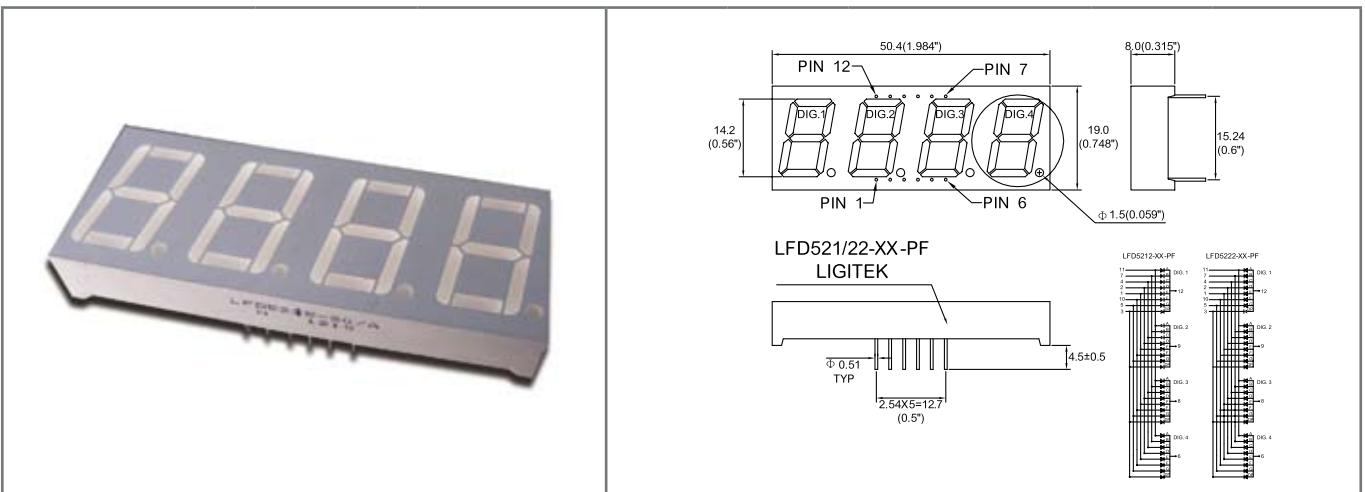
0.4"



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm)	Min	Max	Min	Typ	
LFD4952-XX	GaP	Green	565	1.7	2.6	2.35	4.0	CC
LFD4962-XX								CA
LFD4955-XX	GaAlAs	Red	660	1.5	2.4	2.35	4.0	CC
LFD4965-XX								CA

## QUADRUPLE DIGIT DISPLAY

0.56"

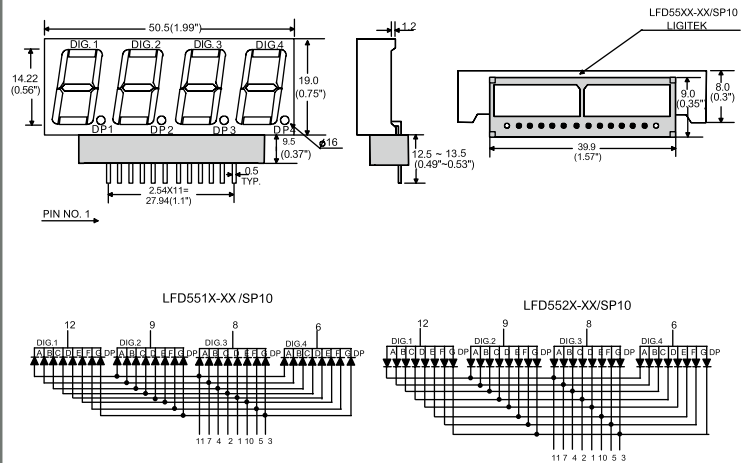


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P$ (nm) * $\lambda D$ (nm)	Min	Max	Min	Typ	
LFD5212-XX	GaP	Green	565	1.7	2.6	1.75	3.05	CC
LFD5222-XX								CA
LFD5215-XX	GaAlAs	Red	660	1.5	2.4	4.0	6.1	CC
LFD5225-XX								CA
LFD5214-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.35	2.35	CC
LFD5224-XX								CA
LFD5216F-XX	AlGalnP	Red	* 630	1.5	2.4	21.5	31	CC
LFD5226F-XX								CA

DIGIT DISPLAY

FOUR DIGIT DISPLAY

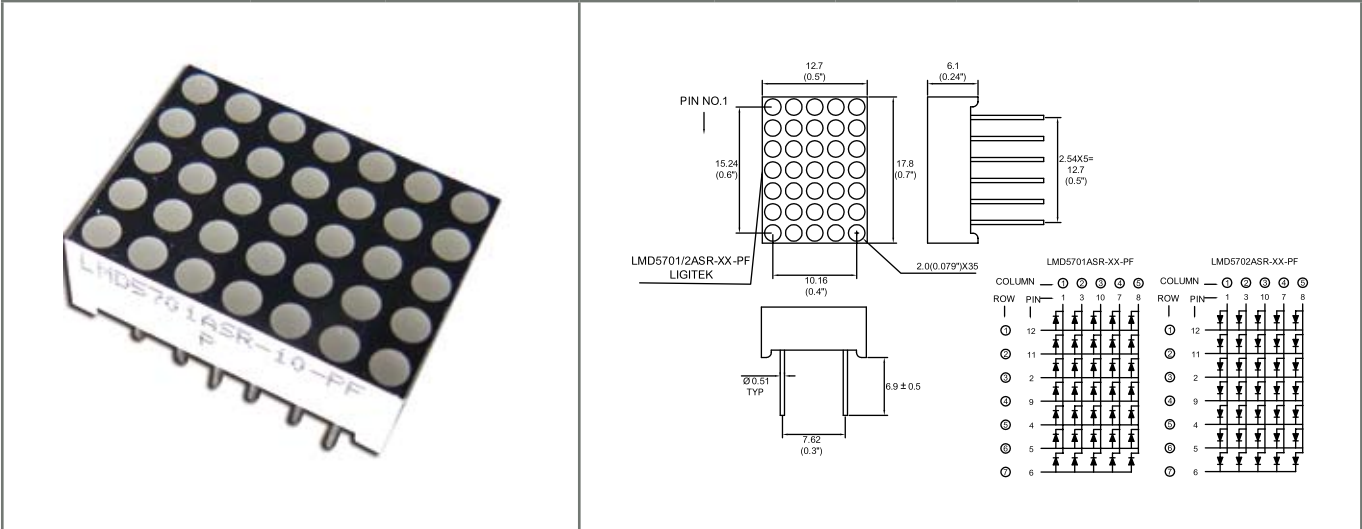
0.56"



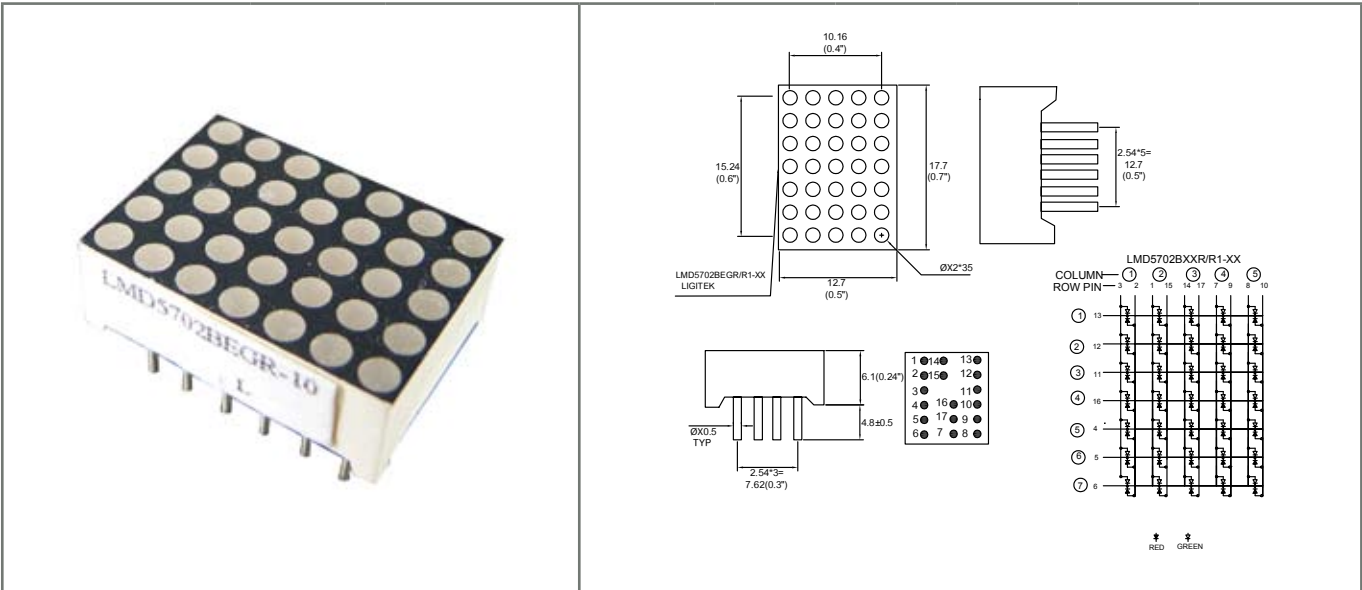
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda P(nm)$ * $\lambda D(nm)$	Min	Max	Min	Typ	
LFD5512-XX/SP10	GaP	Green	565	1.7	2.6	1.75	3.05	CC
LFD5522-XX/SP10								CA
LFD5515-XX/SP10	GaAlAs	Red	660	1.5	2.4	2.2	3.6	CC
LFD5525-XX/SP10								CA
LFD5514-XX/SP10	GaAsP/GaP	Orange Red	635	1.7	2.6	1.7	2.8	CC
LFD5524-XX/SP10								CA
LFD5513-XX/SP10	GaAsP/GaP	Yellow	585	1.7	2.6	1.6	2.6	CC
LFD5523-XX/SP10								CA

DIGIT DISPLAY

**DOT MATRIX DISPLAY**



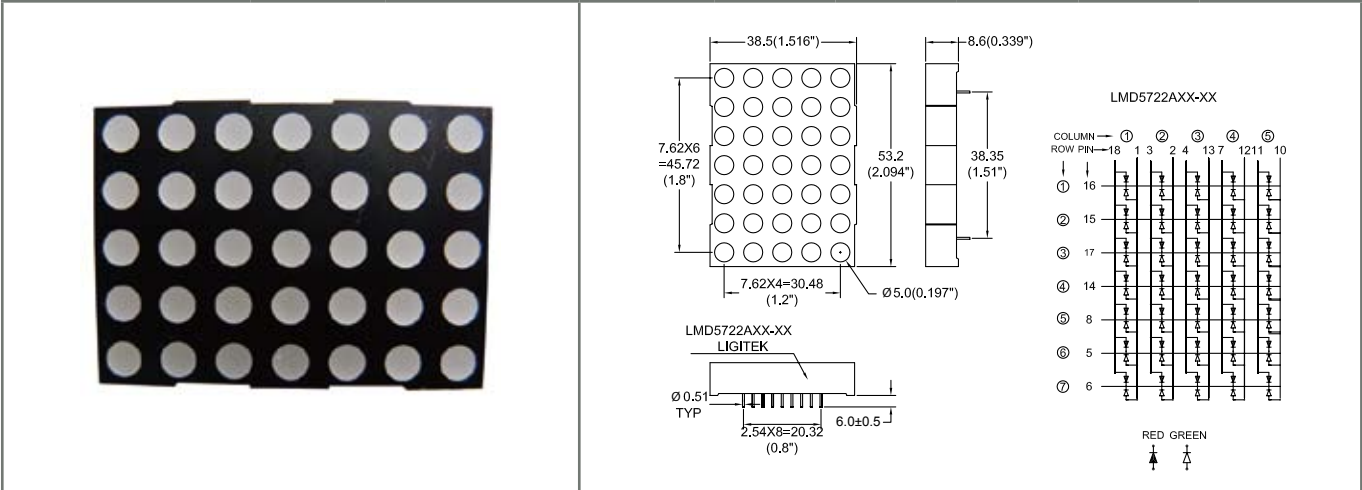
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD5701AG-XX	GaP	Green	565	1.7	2.6	2.35	4.0	CC
LMD5702AG-XX								CA
LMD5701ASR-XX	GaAlAs	Red	660	1.5	2.4	4.0	7.2	CC
LMD5702ASR-XX								CA
LMD5701AE-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	2.35	4.0	CC
LMD5702AE-XX								CA



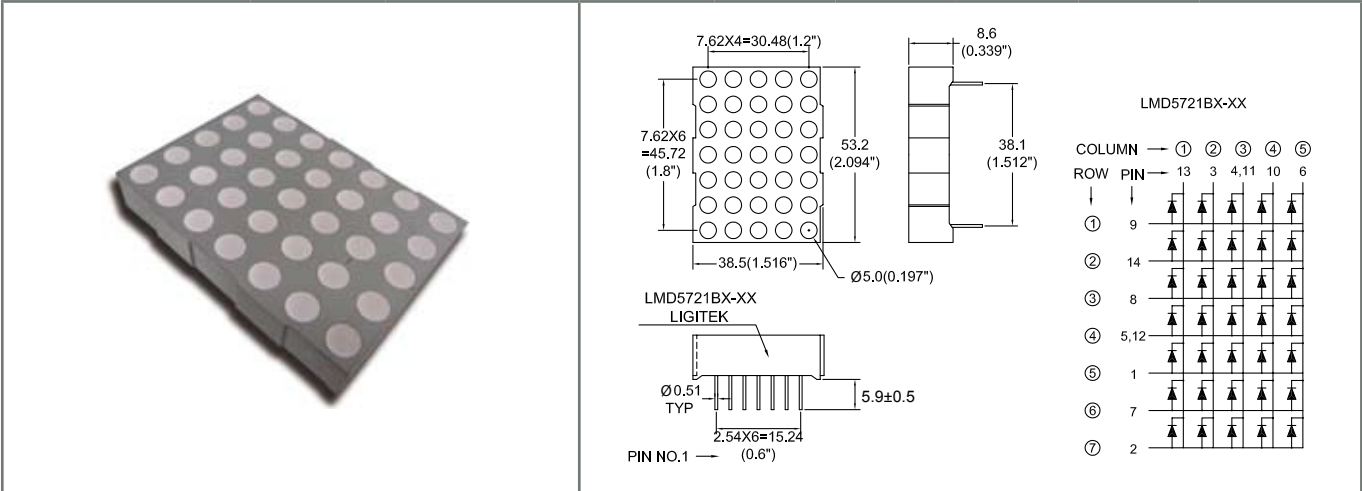
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD5702BEGR/R1-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	3.05	5.0	CA
	GaP	Green	565	1.7	2.6	5.0	8.5	

**DOT MATRIX DISPLAY**

# DOT MATRIX DISPLAY



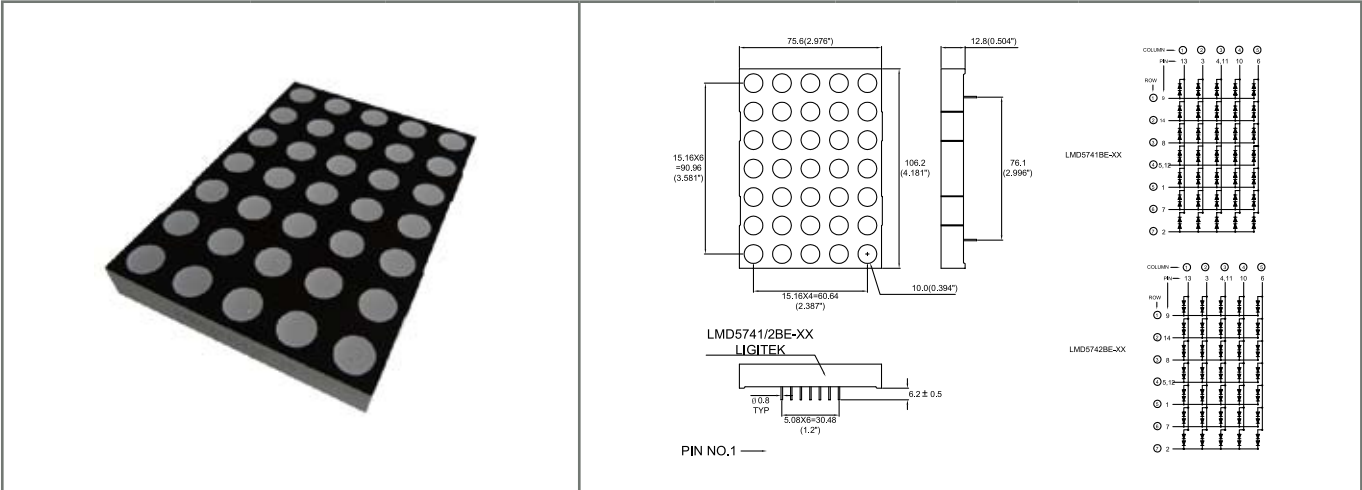
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD5721AEGR-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	4.0	7.2	CC
	GaP	Green	565	1.7	2.6	5.0	8.5	



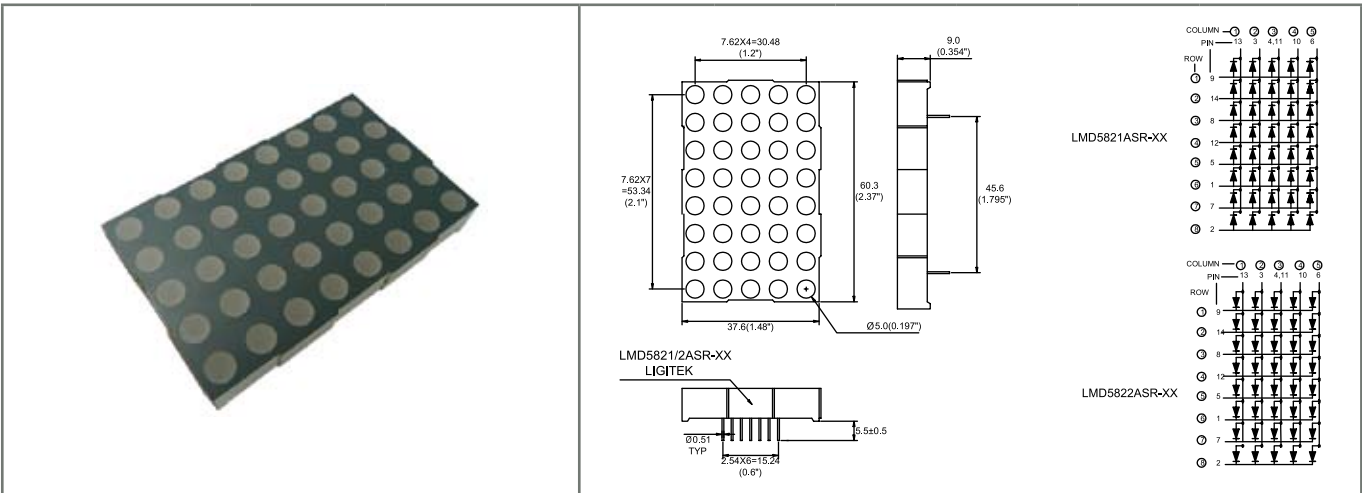
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD5721BG-XX	GaP	Green	565	1.7	2.6	4.0	7.2	CC
LMD5722BG-XX								CA
LMD5721BSR-XX	GaAlAs	Red	660	1.5	2.4	7.2	12	CC
LMD5722BSR-XX								CA
LMD5721BE-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	4.0	7	CC
LMD5722BE-XX								CA

DOT MATRIX DISPLAY

**DOT MATRIX DISPLAY**



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD5741BG-XX	GaP	Green	565	3.4	5.2	6.1	10.5	CC
LMD5742BG-XX								CA
LMD5741BVG-XX	GaP	Green	565	3.4	5.2	8.5	15.25	CC
LMD5742BVG-XX								CA
LMD5741BSR-XX	GaAlAs	Red	660	3.0	4.8	15.25	21.5	CC
LMD5742BSR-XX								CA
LMD5741BE-XX	GaAsP/GaP	Orange Red	635	3.4	5.2	7.2	12.8	CC
LMD5742BE-XX								CA

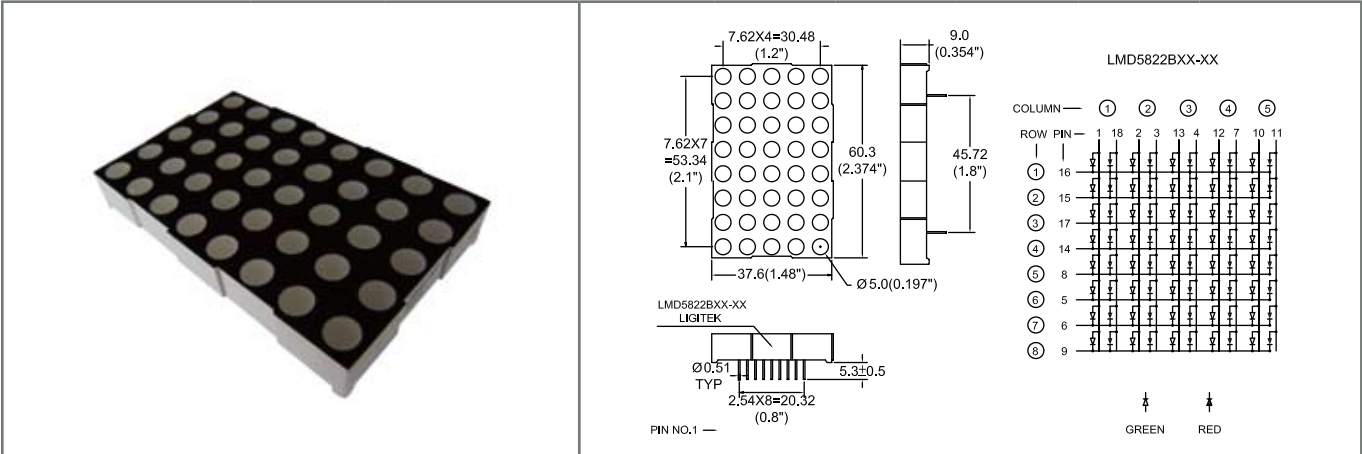


Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD5821AVG-XX	GaP	Green	565	1.7	2.6	5.0	8.5	CC
LMD5822AVG-XX								CA
LMD5821ASR-XX	GaAlAs	Red	660	1.5	2.4	6.1	10.5	CC
LMD5822ASR-XX								CA

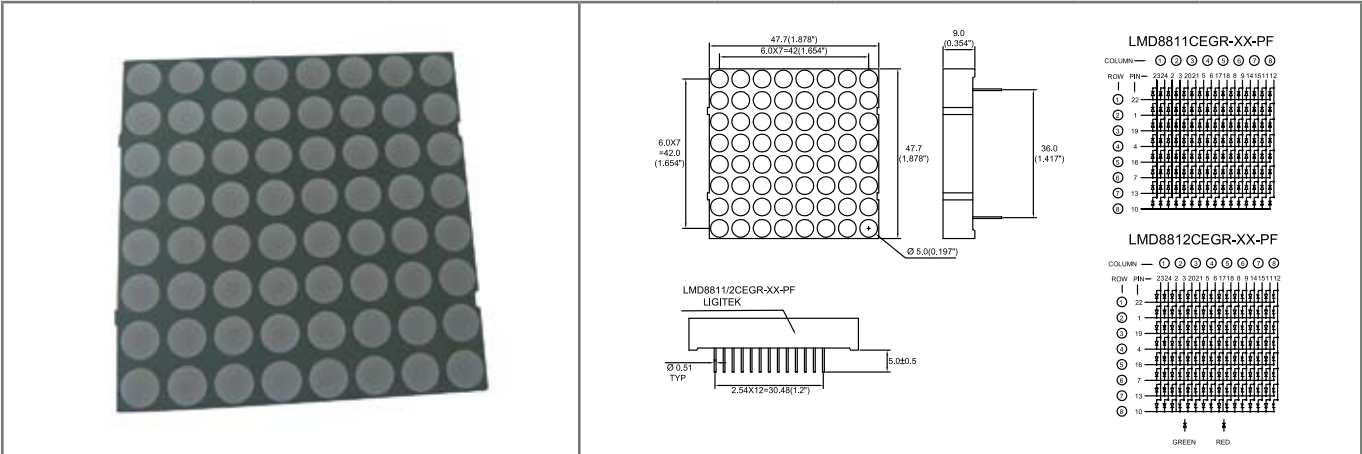
**DOT MATRIX DISPLAY**



# DOT MATRIX DISPLAY



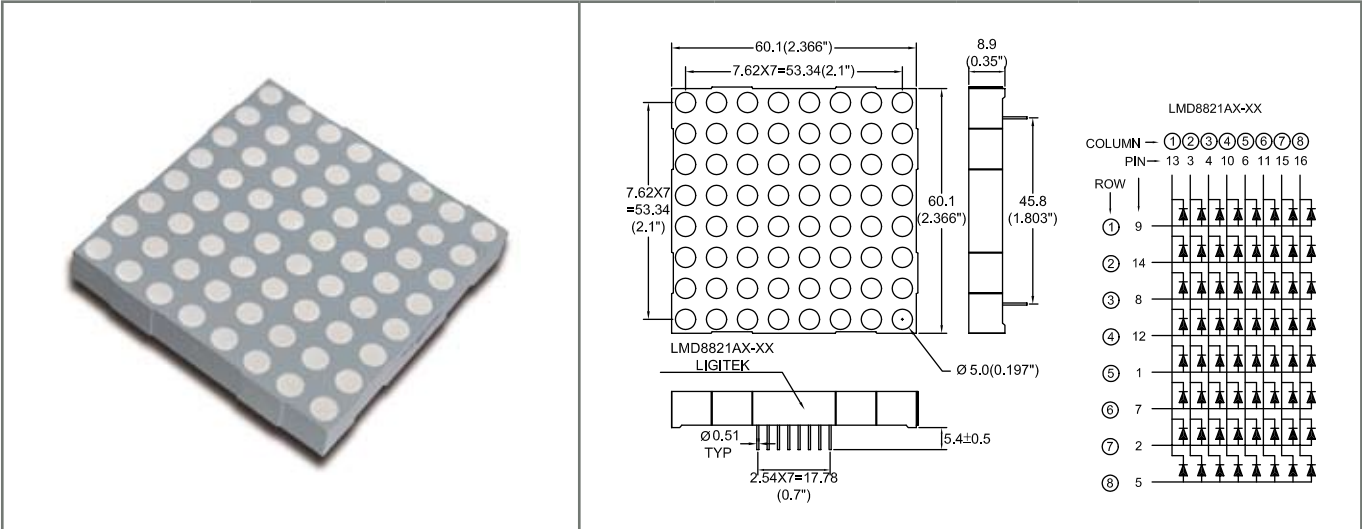
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD5822BSRVG-XX	GaAlAs	Red	660	1.5	2.4	6.1	10.5	CC
	GaP	Green	565	1.7	2.6	4.0	7.2	
LMD5821BSRVG-XX	GaAlAs	Red	660	1.5	2.4	6.1	10.5	CA
	GaP	Green	565	1.7	2.6	4.0	7.2	



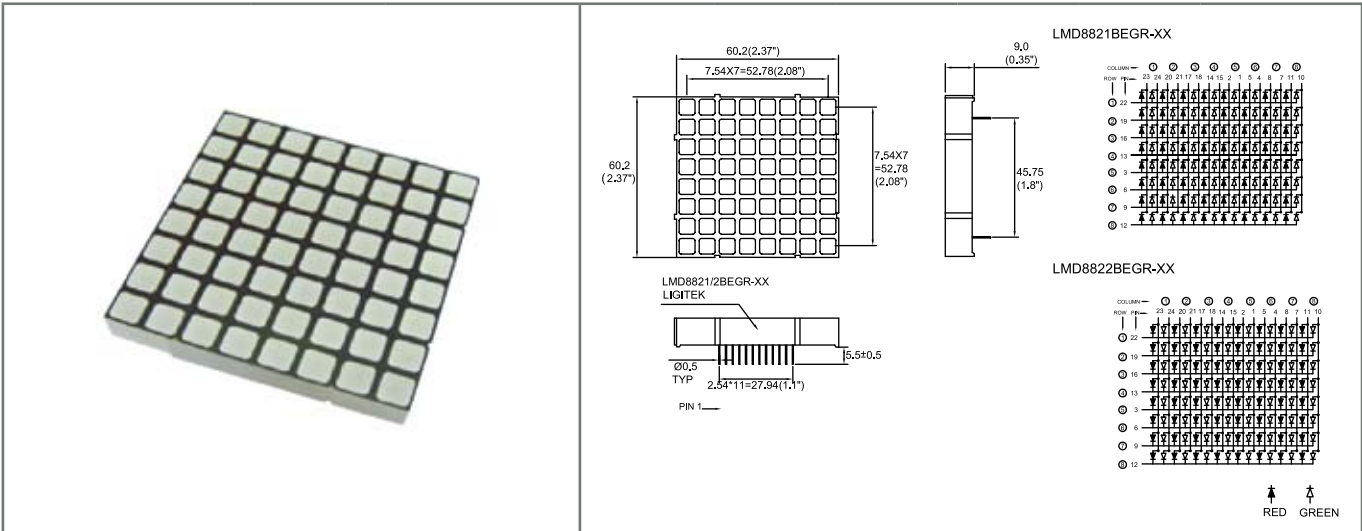
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD8811CEGR-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.75	3.05	CC
	GaP	Green	565	1.7	2.6	2.35	4.0	
LMD8812CEGR-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	1.75	3.05	CA
	GaP	Green	565	1.7	2.6	2.35	4.0	
LMD8811CSRVG-XX	GaAlAs	Red	660	1.5	2.4	8.5	15.25	CC
	GaP	Green	565	1.7	2.6	7.2	12.8	
LMD8812CSRVG-XX	GaAlAs	Red	660	1.5	2.4	8.5	15.25	CA
	GaP	Green	565	1.7	2.6	7.2	12.8	

DOT MATRIX DISPLAY

**DOT MATRIX DISPLAY**



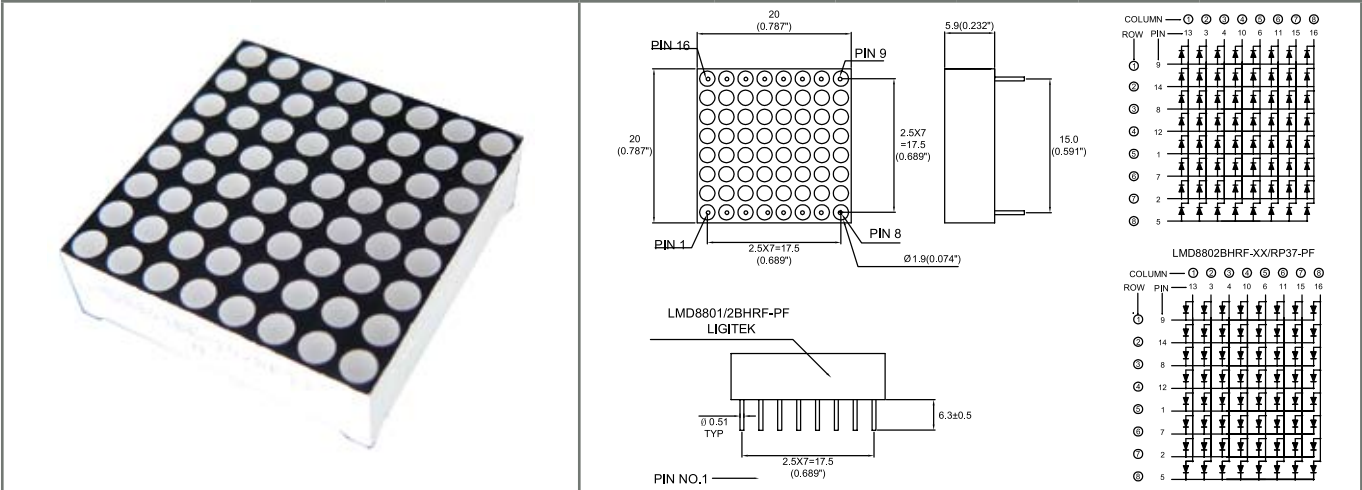
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD8821AG-XX	GaP	Green	565	1.7	2.6	3.05	6.1	CC
LMD8822AG-XX								CA
LMD8821ASR-XX	GaAlAs	Red	660	1.5	2.4	6.1	12	CC
LMD8822ASR-XX								CA
LMD8821AE-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	3.05	5.0	CC
LMD8822AE-XX								CA



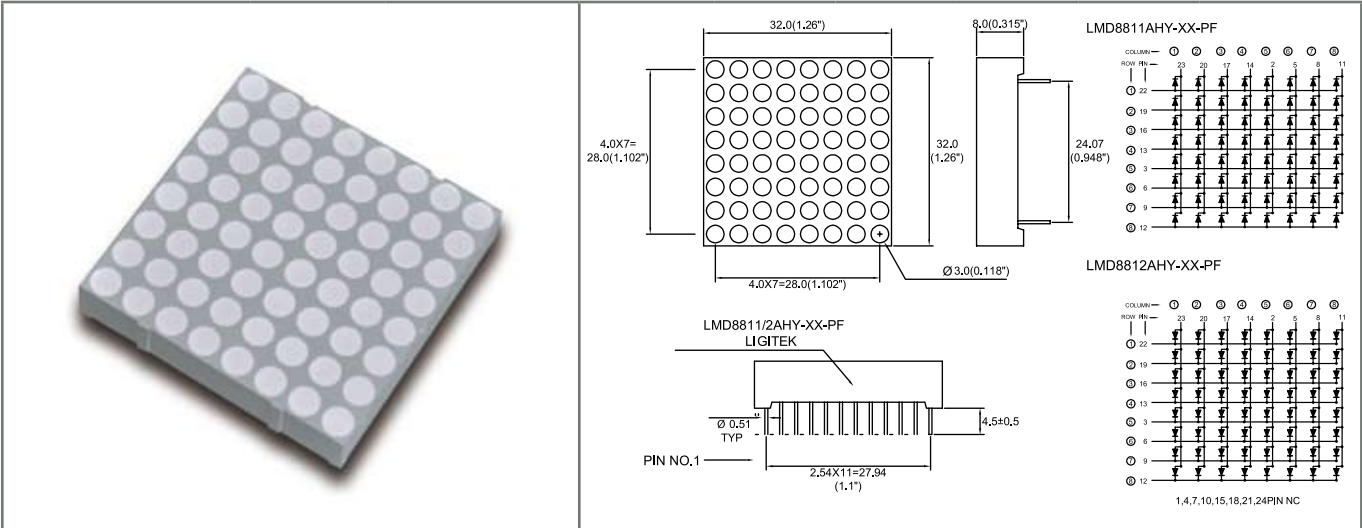
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD8821BEGR-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	4.0	6.1	CC
	GaP	Green	565	1.7	2.6	5.0	7.2	
LMD8822BEGR-XX	GaAsP/GaP	Orange Red	635	1.7	2.6	4.0	6.1	CA
	GaP	Green	565	1.7	2.6	5.0	7.2	

DOT MATRIX DISPLAY

**DOT MATRIX DISPLAY**



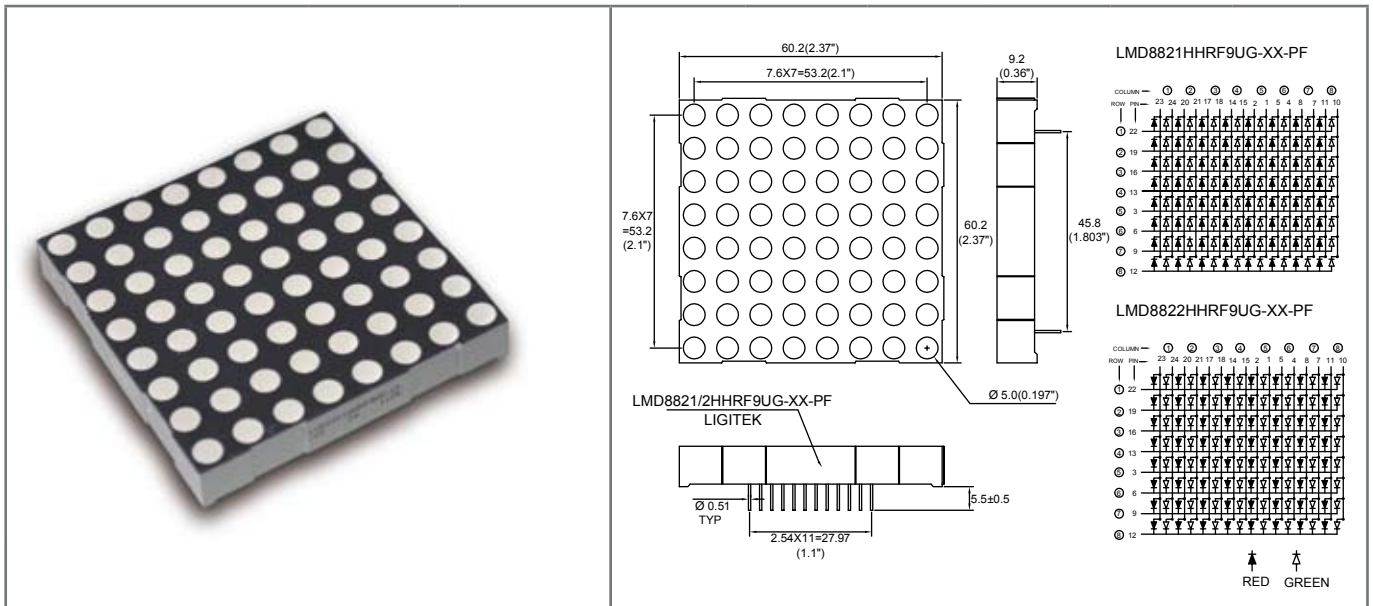
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda D(nm)$ * $\lambda P(nm)$	Min	Max	Min	Typ	
LMD8801BG-PF	GaP	Green	* 565	1.7	2.6	1.75	3.05	CC
LMD8802BG-PF								CA
LMD8801BHRF-PF	AlGalnp	Red	630	1.5	2.4	12.8	21.5	CC
LMD8802BHRF-PF								CA



Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	$\lambda D(nm)$	Min	Max	Min	Typ	
LMD8811A9UG-XX-PF	AlGalnp	Green	574	1.7	2.6	7.2	12.8	CC
LMD8812A9UG-XX-PF								CA
LMD8811A HRF-XX	AlGalnp	Red	630	1.5	2.4	12.8	21.5	CC
LMD8812A HRF-XX								CA
LMD8811AHY-XX-PF	AlGalnp	Yellow	595	1.7	2.6	12.8	21.5	CC
LMD8812AHY-XX-PF								CA

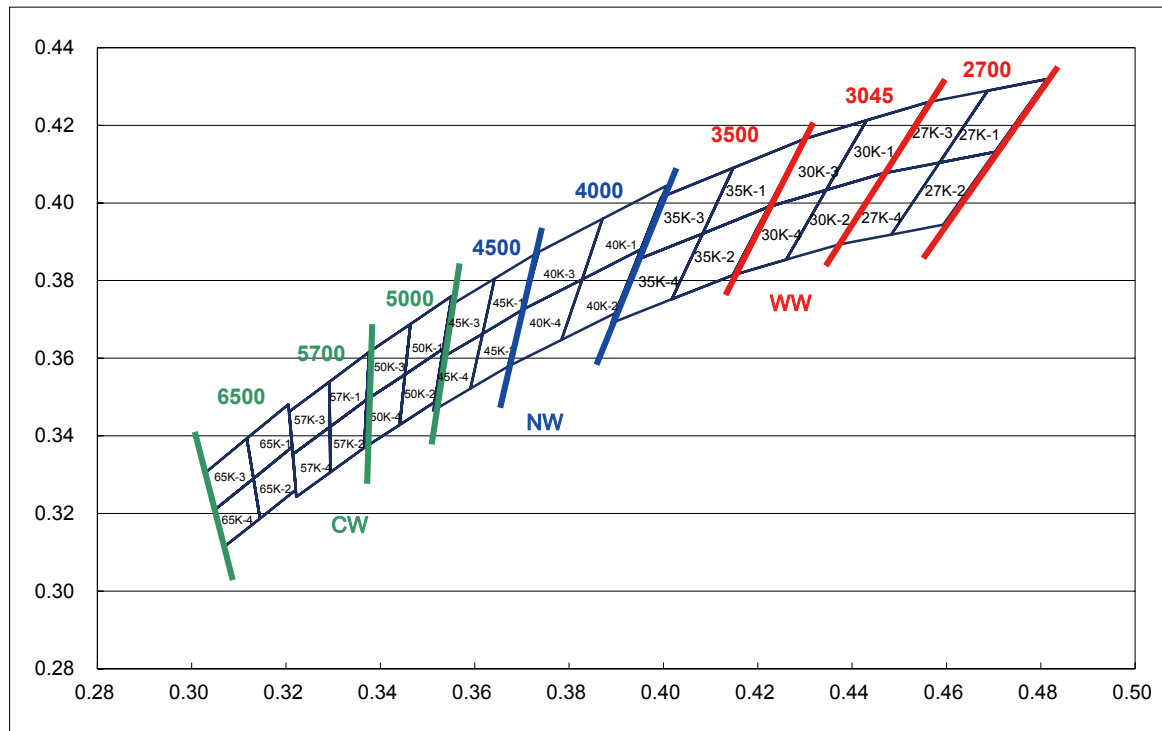
**DOT MATRIX DISPLAY**

## DOT MATRIX DISPLAY



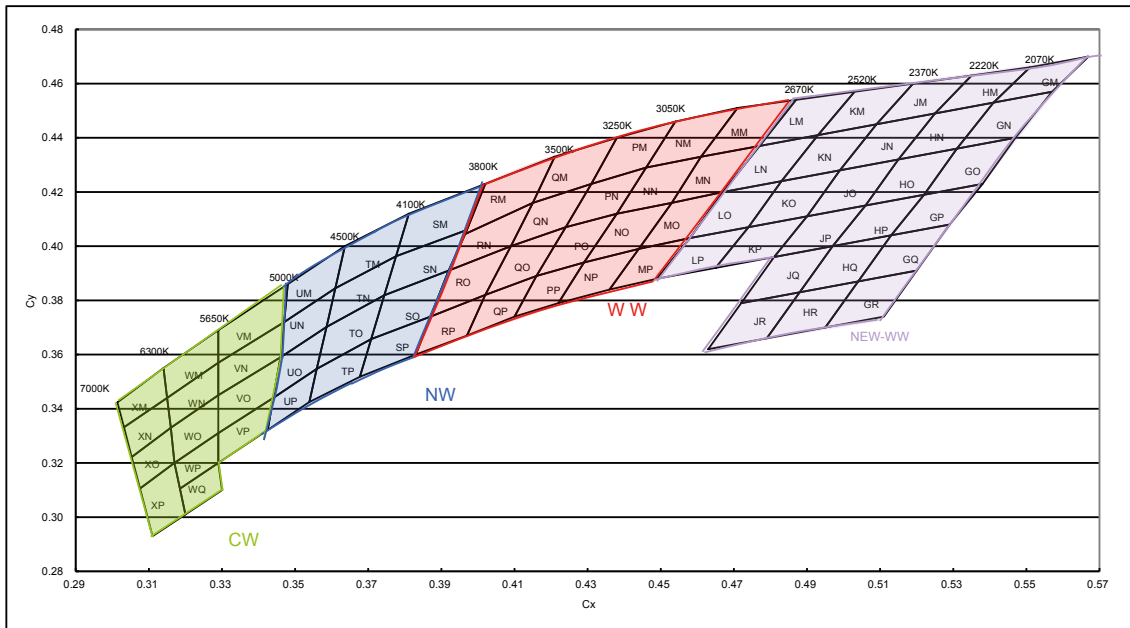
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λP(nm)	Min	Max	Min	Typ	
LMD8821HSRVG-XX-PF	GaAlAs	Red	660	1.5	2.4	7.2	12.8	CC
	GaP	Green	565	1.7	2.6	7.2	12.8	
LMD8822HSRVG-XX-PF	GaAlAs	Red	660	1.5	2.4	7.2	12.8	CA
	GaP	Green	565	1.7	2.6	7.2	12.8	
Part No	Chip			Vf(V)@20mA		Iv(mcd)@10mA		CC or CA
	Material	Emitted color	λD(nm)	Min	Max	Min	Typ	
LMD8821HHRF9UG-XX-PF	AlGaInp	Red	630	1.5	2.4	8.5	15.2	CC
	AlGaInp	Green	574	1.7	2.6	6.1	10.5	
LMD8822HHRF9UG-XX-PF	AlGaInp	Red	630	1.5	2.4	8.5	15.2	CA
	AlGaInp	Green	574	1.7	2.6	6.1	10.5	

# WHITE LED - CIE ANSI BIN RANKS



CCT(K) Reference Range	BIN CODE	1		2		3		4	
		X	Y	X	Y	X	Y	X	Y
2580-2700	27K-1	0.4813	0.4319	0.4688	0.4290	0.4585	0.4104	0.4703	0.4132
	27K-2	0.4703	0.4132	0.4585	0.4104	0.4483	0.3919	0.4593	0.3944
2700-2870	27K-3	0.4688	0.4290	0.4562	0.4260	0.4468	0.4077	0.4585	0.4104
	27K-4	0.4585	0.4104	0.4468	0.4077	0.4373	0.3893	0.4483	0.3919
2870-3045	30K-1	0.4562	0.4260	0.4431	0.4213	0.4345	0.4033	0.4468	0.4077
	30K-2	0.4468	0.4077	0.4345	0.4033	0.4260	0.3854	0.4373	0.3893
3045-3220	30K-3	0.4431	0.4213	0.4299	0.4165	0.4223	0.3990	0.4345	0.4033
	30K-4	0.4345	0.4033	0.4223	0.3990	0.4147	0.3814	0.4260	0.3854
3220-3500	35K-1	0.4299	0.4165	0.4148	0.4090	0.4083	0.3921	0.4223	0.3990
	35K-2	0.4223	0.3990	0.4083	0.3921	0.4018	0.3752	0.4147	0.3814
3500-3710	35K-3	0.4148	0.4090	0.3996	0.4015	0.3943	0.3853	0.4083	0.3921
	35K-4	0.4083	0.3921	0.3943	0.3853	0.3889	0.3690	0.4018	0.3752
3710-4000	40K-1	0.4006	0.4044	0.3871	0.3959	0.3828	0.3803	0.3952	0.3880
	40K-2	0.3952	0.3880	0.3828	0.3803	0.3784	0.3647	0.3898	0.3716
4000-4260	40K-3	0.3871	0.3959	0.3736	0.3874	0.3703	0.3726	0.3828	0.3803
	40K-4	0.3828	0.3803	0.3703	0.3726	0.3670	0.3578	0.3784	0.3647
4260-4500	45K-1	0.3736	0.3874	0.3642	0.3805	0.3617	0.3663	0.3703	0.3726
	45K-2	0.3703	0.3726	0.3617	0.3663	0.3591	0.3522	0.3670	0.3578
4500-4745	45K-3	0.3642	0.3805	0.3548	0.3736	0.3530	0.3601	0.3617	0.3663
	45K-4	0.3617	0.3663	0.3530	0.3601	0.3512	0.3465	0.3591	0.3522
4745-5000	50K-1	0.3551	0.3760	0.3464	0.3688	0.3452	0.3558	0.3533	0.3624
	50K-2	0.3533	0.3624	0.3452	0.3558	0.3441	0.3428	0.3515	0.3487
5700-6020	50K-3	0.3464	0.3688	0.3376	0.3616	0.3371	0.3493	0.3452	0.3558
	50K-4	0.3452	0.3558	0.3371	0.3493	0.3366	0.3369	0.3441	0.3428
5310-5700	57K-1	0.3376	0.3616	0.3292	0.3539	0.3293	0.3423	0.3371	0.3493
	57K-2	0.3371	0.3493	0.3293	0.3423	0.3294	0.3306	0.3366	0.3369
5700-6020	57K-3	0.3292	0.3539	0.3207	0.3462	0.3215	0.3353	0.3293	0.3423
	57K-4	0.3293	0.3423	0.3215	0.3353	0.3222	0.3243	0.3294	0.3306
6020-6500	65K-1	0.3205	0.3481	0.3117	0.3393	0.3131	0.3290	0.3213	0.3371
	65K-2	0.3213	0.3371	0.3131	0.3290	0.3145	0.3187	0.3221	0.3261
6500-7040	65K-3	0.3117	0.3393	0.3028	0.3304	0.3048	0.3209	0.3131	0.3290
6500-7500	65K-4	0.3131	0.3290	0.3048	0.3209	0.3068	0.3113	0.3145	0.3187

# WHITE LED - CIE BIN RANKS



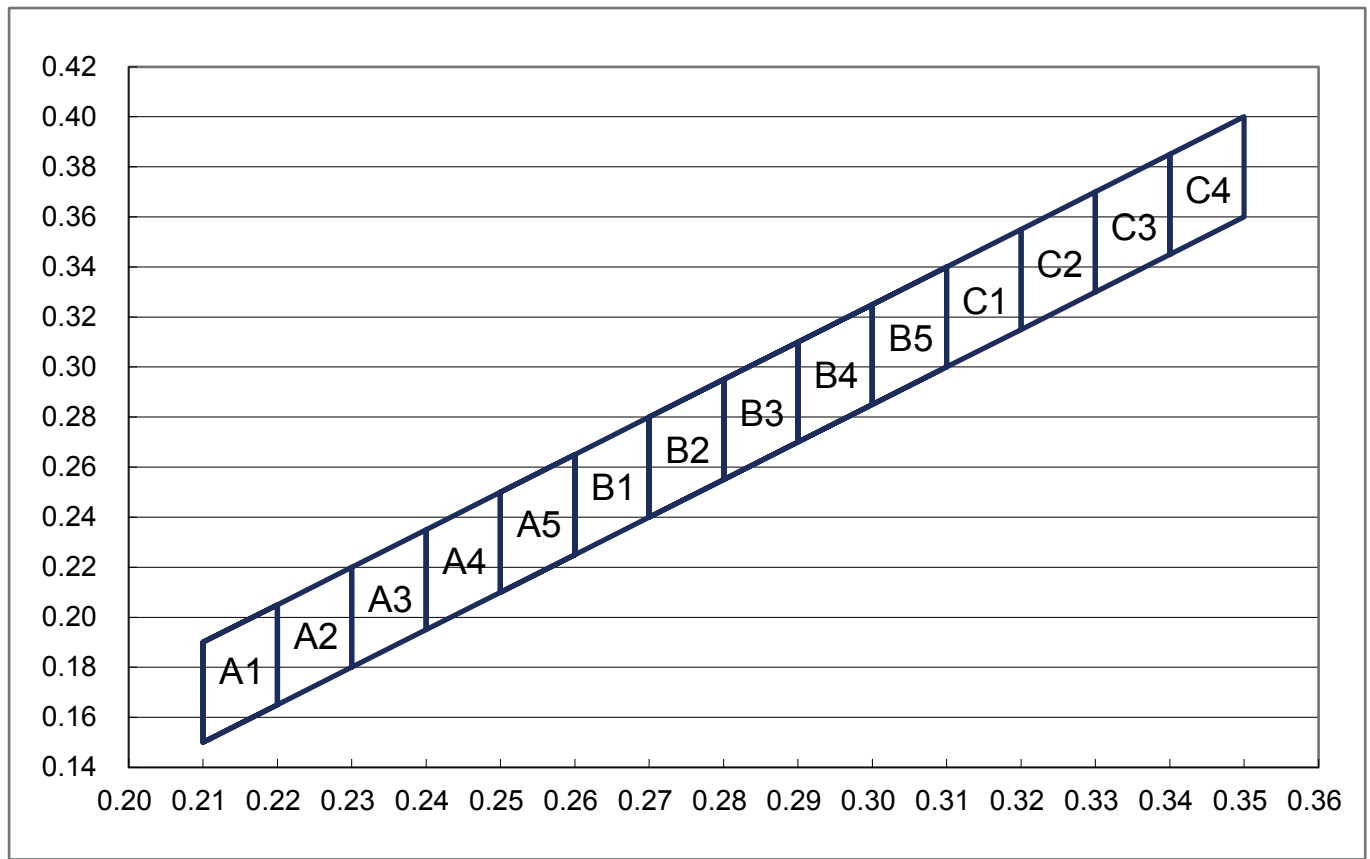
CODE	X	Y	CODE	X	Y	CODE	X	Y	CODE	X	Y
XM	0.3014	0.3424	WM	0.3140	0.3550	VM	0.3290	0.3690	UM	0.3480	0.3860
	0.3140	0.3550		0.3290	0.3690		0.3480	0.3860			
	0.3150	0.3440		0.3290	0.3570		0.3470	0.3720			
	0.3032	0.3332		0.3150	0.3440		0.3290	0.3570			
XN	0.3032	0.3332	WN	0.3150	0.3440	VN	0.3290	0.3570	UN	0.3470	0.3720
	0.3150	0.3440		0.3290	0.3570		0.3470	0.3720			
	0.3160	0.3330		0.3290	0.3450		0.3460	0.3590			
	0.3053	0.3222		0.3160	0.3330		0.3290	0.3450			
XO	0.3053	0.3222	WO	0.3160	0.3330	VO	0.3290	0.3450	UO	0.3460	0.3590
	0.3160	0.3330		0.3290	0.3450		0.3460	0.3590			
	0.3170	0.3200		0.3290	0.3310		0.3440	0.3440			
	0.3076	0.3106		0.3170	0.3200		0.3290	0.3310			
XP	0.3076	0.3106	WP	0.3170	0.3200	VP	0.3290	0.3310	UP	0.3440	0.3440
	0.3110	0.2930		0.3290	0.3310		0.3440	0.3440			
	0.3200	0.3010		0.3290	0.3200		0.3425	0.3322			
	0.3170	0.3200		0.3185	0.3105		0.3290	0.3200			
			WQ	0.3185	0.3105						
				0.3290	0.3200						
				0.3300	0.3100						
				0.3200	0.3010						
CCT	7000-6300K		CCT	6300-5650K		CCT	5650-5000		CCT	5000-4500K	
CODE	X	Y	CODE	X	Y	CODE	X	Y	CODE	X	Y
PM	0.4380	0.4400	NM	0.4540	0.4460	MM	0.4710	0.4510	LM	0.4770	0.4370
	0.4310	0.4230		0.4460	0.4290		0.4610	0.4330		0.4930	0.4410
	0.4460	0.4290		0.4610	0.4330		0.4770	0.4370		0.5030	0.4570
	0.4540	0.4460		0.4710	0.4510		0.4870	0.4540		0.4870	0.4540
PN	0.4310	0.4230	NN	0.4460	0.4290	MN	0.4610	0.4330	LN	0.4670	0.4200
	0.4240	0.4070		0.4380	0.4120		0.4530	0.4160		0.4830	0.4240
	0.4380	0.4120		0.4530	0.4160		0.4670	0.4200		0.4930	0.4410
	0.4460	0.4290		0.4610	0.4330		0.4770	0.4370		0.4770	0.4370
PO	0.4240	0.4070	NO	0.4380	0.4120	MO	0.4530	0.4160	LO	0.4580	0.4030
	0.4160	0.3890		0.4290	0.3940		0.4440	0.3990		0.4740	0.4070
	0.4290	0.3940		0.4440	0.3990		0.4580	0.4030		0.4830	0.4240
	0.4380	0.4120		0.4530	0.4160		0.4670	0.4200		0.4670	0.4200
PP	0.4290	0.3940	NP	0.4440	0.3990	MP	0.4580	0.4030	LP	0.4490	0.3880
	0.4160	0.3890		0.4290	0.3940		0.4440	0.3990		0.4650	0.3920
	0.4100	0.3740		0.4220	0.3790		0.4360	0.3840		0.4740	0.4070
	0.4220	0.3790		0.4360	0.3840		0.4490	0.3880		0.4580	0.4030
CCT	3250-3050K		CCT	3050-2850K		CCT	2850-2670K		CCT	2670-2520K	

## WHITE LED - CIE BIN RANKS

CODE	X	Y	CODE	X	Y	CODE	X	Y	CODE	X	Y	
TM	0.3636	0.4000	SM	0.3811	0.4120	RM	0.4210	0.4330	QM	0.4210	0.4330	
	0.3811	0.4120		0.4020	0.4230		0.4150	0.4160		0.4150	0.4160	
	0.3776	0.3963		0.3970	0.4060		0.3965	0.4045		0.4310	0.4230	
	0.3610	0.3845		0.3776	0.3963		0.4020	0.4230		0.4380	0.4400	
TN	0.3610	0.3845	SN	0.3776	0.3963	RN	0.4150	0.4160	QN	0.4150	0.4160	
	0.3776	0.3963		0.3970	0.4060		0.4090	0.4000		0.4090	0.4000	
	0.3744	0.3819		0.3920	0.3910		0.3920	0.3910		0.4240	0.4070	
	0.3586	0.3702		0.3744	0.3819		0.3965	0.4045		0.4310	0.4230	
TO	0.3586	0.3702	SO	0.3744	0.3819	RO	0.3920	0.3910	QO	0.4090	0.4000	
	0.3744	0.3819		0.3920	0.3910		0.3870	0.3740		0.4020	0.3820	
	0.3708	0.3657		0.3870	0.3740		0.4020	0.3820		0.4160	0.3890	
	0.3559	0.3547		0.3708	0.3657		0.4090	0.4000		0.4240	0.4070	
TP	0.3559	0.3547	SP	0.3708	0.3657	RP	0.3870	0.3740	QP	0.4160	0.3890	
	0.3708	0.3657		0.3870	0.3740		0.3830	0.3600		0.4020	0.3820	
	0.3677	0.3518		0.3830	0.3600		0.3970	0.3670		0.3970	0.3670	
	0.3539	0.3425		0.3677	0.3518		0.4020	0.3820		0.4100	0.3740	
CCT	4500-4100K		CCT	4100-3800K		CCT	3800-3500K		CCT	3500-3250K		
CODE	X	Y	CODE	X	Y	CODE	X	Y	CODE	X	Y	
KM	0.4930	0.4410	JM	0.5090	0.4450	HM	0.5250	0.4490	GM	0.5410	0.4530	
	0.5090	0.4450		0.5250	0.4490		0.5410	0.4530		0.5570	0.4570	
	0.5190	0.4600		0.5350	0.4630		0.5510	0.4660		0.5670	0.4700	
	0.5030	0.4570		0.5190	0.4600		0.5350	0.4630		0.5510	0.4660	
KN	0.4830	0.4240	JN	0.4990	0.4280	HN	0.5150	0.4320	GN	0.5310	0.4360	
	0.4990	0.4280		0.5150	0.4320		0.5310	0.4360		0.5470	0.4400	
	0.5090	0.4450		0.5250	0.4490		0.5410	0.4530		0.5570	0.4570	
	0.4930	0.4410		0.5090	0.4450		0.5250	0.4490		0.5410	0.4530	
KO	0.4740	0.4070	JO	0.4900	0.4110	HO	0.5060	0.4150	GO	0.5220	0.4190	
	0.4900	0.4110		0.5060	0.4150		0.5220	0.4190		0.5380	0.4230	
	0.4990	0.4280		0.5150	0.4320		0.5310	0.4360		0.5470	0.4400	
	0.4830	0.4240		0.4990	0.4280		0.5150	0.4320		0.5310	0.4360	
KP	0.4650	0.3920	JP	0.4810	0.3960	HP	0.4970	0.4000	GP	0.5130	0.4040	
	0.4810	0.3960		0.4970	0.4000		0.5130	0.4040		0.5290	0.4080	
	0.4900	0.4110		0.5060	0.4150		0.5220	0.4190		0.5380	0.4230	
	0.4740	0.4070		0.4900	0.4110		0.5060	0.4150		0.5220	0.4190	
/	JQ			0.4720	0.3790	HQ	0.4880	0.3830	GQ	0.5040	0.3870	
				0.4880	0.3830		0.5040	0.3870		0.5200	0.3910	
				0.4970	0.4000		0.5130	0.4040		0.5290	0.4080	
				0.4810	0.3960		0.4970	0.4000		0.5130	0.4040	
	JR				0.4630	0.3620	HR	0.4790	0.3660	GR	0.4950	0.3700
					0.4790	0.3660		0.4950	0.3700		0.5110	0.3740
					0.4880	0.3830		0.5040	0.3870		0.5200	0.3910
					0.4720	0.3790		0.4880	0.3830		0.5040	0.3870
CCT	2520-2370K		CCT	2370-2200K		CCT	2200-2070K		CCT	2070-1290K		

## WHITE LED - BIN GRADING

### Chromaticity Coordinates Specifications for Bin Grading



CODE	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
A1	0.210	0.190	0.210	0.150	0.220	0.165	0.220	0.205
A2	0.220	0.205	0.220	0.165	0.230	0.180	0.230	0.220
A3	0.230	0.220	0.230	0.180	0.240	0.195	0.240	0.235
A4	0.240	0.235	0.240	0.195	0.250	0.210	0.250	0.250
A5	0.250	0.250	0.250	0.210	0.260	0.225	0.260	0.265
B1	0.260	0.265	0.260	0.225	0.270	0.240	0.270	0.280
B2	0.270	0.280	0.270	0.240	0.280	0.255	0.280	0.295
B3	0.280	0.295	0.280	0.255	0.290	0.270	0.290	0.310
B4	0.290	0.310	0.290	0.270	0.300	0.285	0.300	0.325
B5	0.300	0.325	0.300	0.285	0.310	0.300	0.310	0.340
C1	0.310	0.340	0.310	0.300	0.320	0.315	0.320	0.355
C2	0.320	0.355	0.320	0.315	0.330	0.330	0.330	0.370
C3	0.330	0.370	0.330	0.330	0.340	0.345	0.340	0.385
C4	0.340	0.385	0.340	0.345	0.350	0.360	0.350	0.400



## Color Code For PLCC & LAMP & DISPLAY

For single color type					
code	λD(nm)@20mA		code	λD(nm)@20mA	
	MIN	MAX		MIN	MAX
<b>0J</b>	447	450	<b>5</b>	564	566
<b>0I</b>	450	453	<b>6</b>	566	568
<b>0H</b>	453	456	<b>7</b>	568	570
<b>0G</b>	456	459	<b>8-1</b>	570	571
<b>0F</b>	459	462	<b>8-2</b>	571	572
<b>0E</b>	462	465	<b>9</b>	572	574
<b>0D</b>	465	468	<b>10</b>	574	576
<b>0C</b>	468	471	<b>11</b>	576	578
<b>0B</b>	471	474	<b>12</b>	578	580
<b>0A</b>	474	477	<b>13</b>	580	583
<b>1A</b>	477	480	<b>14</b>	583	585
<b>1B</b>	480	483	<b>15</b>	585	587
<b>1C</b>	483	486	<b>16</b>	587	589
<b>1D</b>	486	489	<b>17-1</b>	589	590
<b>1E</b>	489	492	<b>17-2</b>	590	591
<b>1F</b>	492	495	<b>17-3</b>	591	592
<b>1G</b>	495	498	<b>18</b>	592	595
<b>1H</b>	498	501	<b>19</b>	595	598
<b>1I</b>	501	504	<b>20</b>	598	600
<b>1J</b>	504	507	<b>21</b>	600	603
<b>1K</b>	507	510	<b>22</b>	603	606
<b>1L</b>	510	513	<b>23</b>	606	609
<b>1M</b>	513	516	<b>24</b>	609	612
<b>1N</b>	516	519	<b>25</b>	612	615
<b>1O</b>	519	522	<b>26</b>	615	618
<b>1P</b>	522	525	<b>27</b>	618	621
<b>1Q</b>	525	528	<b>28</b>	621	624
<b>1R</b>	528	531	<b>29</b>	624	627
<b>1S</b>	531	534	<b>30</b>	627	630
<b>1T</b>	534	537	<b>31</b>	630	633
<b>1U</b>	537	540	<b>32</b>	633	636
<b>1V</b>	540	543	<b>33</b>	636	639
<b>1W</b>	543	546	<b>34</b>	639	642
<b>1X</b>	546	549	<b>35</b>	642	645
<b>1Y</b>	549	552	<b>36</b>	645	648
<b>1Z</b>	552	555	<b>37</b>	648	651
<b>1</b>	555	558	<b>38</b>	651	654
<b>2</b>	558	560	<b>39</b>	654	657
<b>3</b>	560	562	<b>40</b>	657	660
<b>4</b>	562	564			

## BRIGHTNESS CODE FOR PLCC LED

100mcd/bin @20mA							
type	code	IV(mcd)		code	IV(mcd)		
		MIN	MAX		MIN	MAX	
<b>020</b>	U11U12	0	100	B50B60	4500	4600	
	U13U14	100	200	B60B70	4600	4700	
	U15U16	200	300	B70B80	4700	4800	
	U17U18	300	400	B80B90	4800	4900	
	U19U20	400	500	B90C00	4900	5000	
	U21U22	500	600	C00C10	5000	5100	
	U23U24	600	700	C10C20	5100	5200	
	U25U26	700	800	C20C30	5200	5300	
	V11V12	800	900	C30C40	5300	5400	
	V13V14	900	1000	C40C50	5400	5500	
	V21V22	1000	1100	C50C60	5500	5600	
	V24W11	1100	1200	C60C70	5600	5700	
	W12W13	1200	1300	C70C80	5700	5800	
	W14W15	1300	1400	C80C90	5800	5900	
	W21W22	1400	1500	C90D00	5900	6000	
	W23W24	1500	1600	D00D10	6000	6100	
	W25W31	1600	1700	D10D20	6100	6200	
	W32W33	1700	1800	D20D30	6200	6300	
	<b>008</b>	W34W35	1800	1900	D30D40	6300	6400
		W36W37	1900	2000	D40D50	6400	6500
X11X12		2000	2100	D60D70	6600	6700	
X13X14		2100	2200	D70D80	6700	6800	
<b>9553</b>	X15X16	2200	2300	D80D90	6800	6900	
	X17X18	2300	2400	D90E00	6900	7000	
	X19X20	2400	2500	E00E10	7000	7100	
	X21X22	2500	2600	E10E20	7100	7200	
	X23X24	2600	2700	E20E30	7200	7300	
	X25X26	2700	2800	E30E40	7300	7400	
<b>9S53</b>	X27X28	2800	2900	E40E50	7400	7500	
	X29X30	2900	3000	E50E60	7500	7600	
	A00A10	3000	3100	E60E70	7600	7700	
	A10A20	3100	3200	E70E80	7700	7800	
	A20A30	3200	3300	E80E90	7800	7900	
	A30A40	3300	3400	E90F00	7900	8000	
	A40A50	3400	3500	F00F10	8000	8100	
	A50A60	3500	3600	F10F20	8100	8200	
	A60A70	3600	3700	F20F30	8200	8300	
	A70A80	3700	3800	F30F40	8300	8400	
A90B00	3900	4000	F40F50	8400	8500		
B00B10	4000	4100	F50F60	8500	8600		
B10B20	4100	4200	F60F70	8600	8700		
B20B30	4200	4300	F70F80	8700	8800		
B30B40	4300	4400	F80F90	8800	8900		
B40B50	4400	4500	F90G00	8900	9000		

## BRIGHTNESS CODE FOR PLCC LED

2lm/bin (@30mA/60mA)			
type	code	MIN	MAX
5630 0.2W	F2D	2	4
	F4D	4	6
	F6D	6	8
	F8D	8	10
	F10D	10	12
	F12D	12	14
	F14D	14	16
	F16D	16	18
	F18D	18	20
	F20D	20	22
	F22D	22	24
	F24D	24	26
	F26D	26	28
	F28D	28	30
	F30D	30	32
	F32D	32	34
	F34D	34	36
	F36D	36	38
	F38D	38	40
	F40D	40	42
	F42D	42	44
	F44D	44	46
	F46D	46	48
	F48D	48	50
F50D	50	52	
F52D	52	54	
F54D	54	56	
F56D	56	58	
F58D	58	60	
F60D	60	62	
F62D	62	64	
F64D	64	66	
F66D	66	68	
F68D	68	70	
F70D	70	72	
F72D	72	74	

3lm/bin (@120mA/150mA)			
type	code	MIN	MAX
5630 0.4W	F21T	21	24
	F24T	24	27
	F27T	27	30
	F30T	30	33
	F33T	33	36
	F36T	36	39
	F39T	39	42
	F42T	42	45
	F45T	45	48
	F48T	48	51
	F51T	51	54
	F54T	54	57
	F57T	57	60
	F60T	60	63
	F63T	63	66
	F66T	66	69
	F69T	69	72
	F72T	72	75
	F75T	75	78
	F78T	78	81
	F81T	81	84
	F84T	84	87
	F87T	87	90
	F90T	90	93
F93T	93	96	
F96T	96	99	
F99T	99	102	

## BRIGHTNESS BIN GRADING SYSTEM FOR LAMP & DISPLAY

### Brightness Code For Super Bright LED

Group	Luminous Intensity (mcd) at 20mA	
	MIN	MAX
6	15	21
7	21	28
8	28	38
9	38	50
10	50	65
11	65	90
12	90	120
13	120	160
14	160	220
15	220	300
16	300	350
17	350	450
18	450	550
19	550	700
20	700	900
21	900	1100
22	1100	1500
23	1500	1800
24	1800	2200
25	2200	2700
26	2700	3400
27	3400	4000
28	4000	5000
29	5000	6200
30	6200	7700
31	7700	9500
32	9500	11500
33	11500	14000
34	14000	17000
35	17000	21000
36	21000	26000
37	26000	32000
38	32000	40000
39	40000	50000

### Brightness Code For Display

GROUP	Luminous Intensity (μcd) at 10mA	
	MIN	MAX
C	200	350
D	350	500
E	500	800
F	800	1000
G	1000	1350
H	1350	1750
I	1750	2350
K	2350	3050
L	3050	4000
M	4000	5000
N	5000	6100
O	6100	7200
P	7200	8500
Q	8500	10500
R	10500	12800
S	12800	15250
T	15250	18000
U	18000	21500
V	21500	26000
W	26000	31000
X	31000	37000
Y	37000	43000
Z	43000	50000
Z1	50000	58000
Z2	58000	68000
Z3	68000	78500
Z4	78500	91000
Z5	91000	145000
Z6	145000	175000
Z7	175000	210000
Z8	210000	250000
Z9	250000	300000
Z10	300000	360000
Z11	360000	430000
Z12	430000	516000

### Brightness Code For Standard LED

Group	Luminous Intensity (mcd) at 10mA	
	MIN	MAX
1	0.1	0.25
2	0.25	0.5
3	0.5	0.8
4	0.8	1.2
5	1.2	1.8
6	1.8	3
7	3	4.5
8	4.5	8
9	8	12
10	12	20
11	20	30
12	30	45
13	45	65
14	65	100
15	100	150
16	150	200
17	200	300
18	300	450
19	450	650
20	650	1000

## Brightness Code for PCB & PLCC type SMD

Bin	Iv(mcd)@20mA	
	Min	Max
A	0.1	0.2
B	0.2	0.32
C	0.32	0.5
D	0.5	0.8
E	0.8	1.25
F	1.25	2.0
G	2.0	3.2
H	3.2	5.0
J	5.0	8.0
K	8.0	12.5
L	12.5	20
M	20	32
N	32	50
P	50	80
Q	80	125
R	125	200
S	200	320
T	320	500
U	500	800
V-1	800	1000
V-2	1000	1250
W-1	1250	1600
W-2	1600	2000
X-1	2000	2550
X-2	2550	3200
Y-1	3200	4000
Y-2	4000	5000
Z-1	5000	6500
Z-2	6500	8000
AA-1	8000	10000
AA-2	10000	12500
AB-1	12500	16000
AB-2	16000	20000

### Infrared LED Lamps Bin Code

BIN	Radiant Intensity(mW/sr) at 20mA	
	Min	Max
1	0	3
2	3	4
3	4	5
4	5	6
5	6	8
6	8	10
7	10	12
8	12	14
9	14	17
10	17	20
11	20	24
12	24	29
13	29	35
14	35	42
15	42	50
16	50	60
17	60	75
18	75	85
19	85	105
20	105	125

### Photodiode Bin Code

BIN	Is-pd(mA) at 5V	
	Min	Max
I1	0.2	0.5
I2	0.5	1.0
I3	1.0	1.5
I4	1.5	2.0
I5	2.0	2.5
I6	2.5	3.0
I7	3.0	3.5
I8	3.5	4.0
I9	4.0	4.5
I10	4.5	5.0

### Phototransistor Bin Code

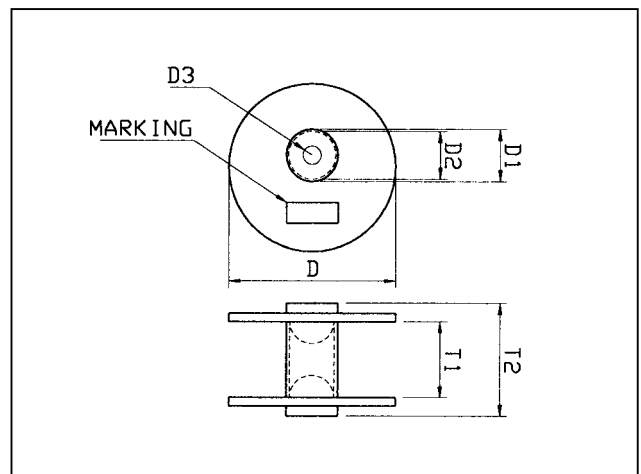
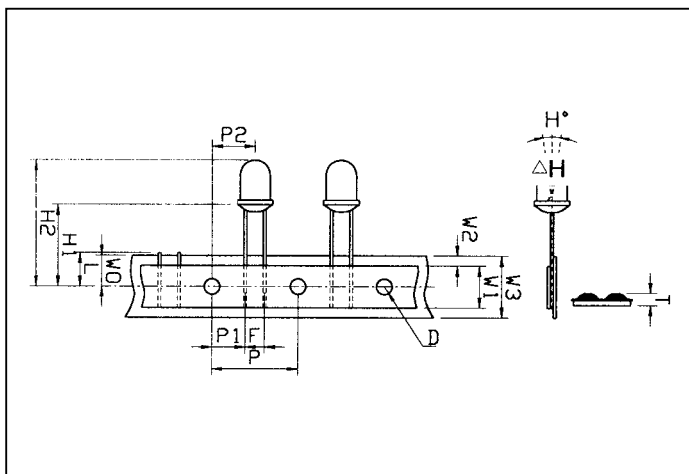
BIN	Ion-pt(mA) at 5V	
	Min	Max
I5	0.5	1
I6	1	2
I7	2	4
I8	4	8
I9	8	16

## LED LAMPS IN TAPE & REEL

## Dimensions Symbol Information

Symbol items	Option Code	Symbol	Specifications			
			Minimum		Maximum	
			mm	inch	mm	inch
Tape Feed Hole Diameter	-	D	3.8	0.15	4.2	0.17
Component Lead Pitch	-	F	2.3	0.09	3.0	0.12
Front-To-Rear Deflection	-	$\Delta H$	-	-	2.0	0.08
Feed Hole to Bottom of Component	TRS-1	H1	17.5	0.69	18.5	0.73
	TRS-2		21.5	0.85	22.5	0.89
	TRS-3		25.5	1.00	26.5	1.04
	TRS-4		27.5	1.08	28.5	1.12
	TRS-5		22.5	0.89	23.5	0.93
	TRS-6		19.9	0.78	20.9	0.82
	TRS-7		24.0	0.94	25.0	0.98
	TRS-8		24.5	0.96	25.5	1.00
	TRS-9		19.0	0.75	20.0	0.79
	TRS-10		18.4	0.72	19.4	0.76
	TRS-11		21.0	0.83	22.0	0.87
	TRS-12		20.5	0.81	21.5	0.85
	TRS-13		18.0	0.71	19.0	0.75
	TRS-14		26.5	1.04	27.5	1.08
Remark: TRS= Tape and Reel Straight Leads						
Feed Hole To Overall Component Height		H2	-	-	36.0	1.42
Lead Length After Component Height		L	WO		11.0	0.43
Feed Hole Pitch		P	12.4	0.49	13.0	0.51
Lead Location		P1	4.4	0.17	5.8	0.23
Center Of Component Location		P2	5.1	0.20	7.7	0.30
Overall Taped Package Thickness		T	-	-	1.4	0.06
Feed Hole Location	-	W0	8.5	0.33	9.8	0.38
Adhesive Tape Width	-	W1	14.5	0.57	15.5	0.61
Adhesive Tape Position	-	W2	-	-	4.0	0.16
Tape Width	-	W3	17.5	0.69	19.0	0.75
Reel Diameter	-	D	78.2	3.08	380.0	14.96
Core Diameter	-	D1	34.9	1.37	102.0	4.02
Hue Recess Inside Diameter	-	D2	28.6	1.13	88.0	3.46
Arbor Hole Diameter	-	D3	13.8	0.54	38.1	1.50
Overall Reel Thickness	-	T2	-	-	57.2	2.25
Inside Reel Flange Thickness	-	T1	30.0	1.18	50.0	1.97

## Package Dimensions

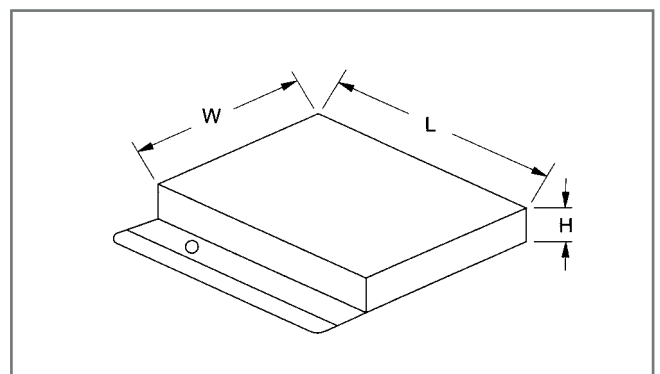
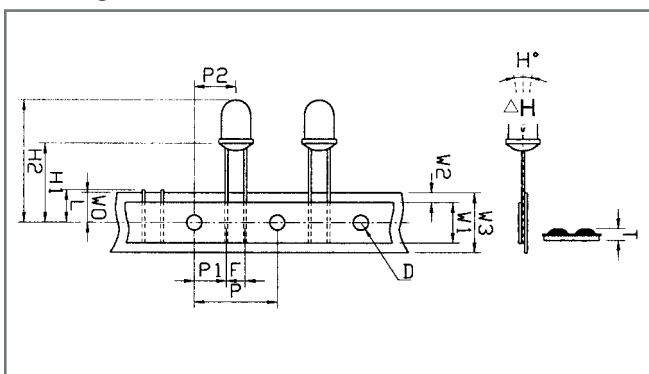


## LED LAMPS IN TAPE & Box

## Dimentions Symbol Information

Symbol items	Option Code	Symbol	Specifications			
			Minimum		Maximum	
			mm	inch	mm	inch
Tape feed Hole Diameter	-	D	3.8	0.15	4.2	0.17
Component Lead Pitch	-	F	2.3	0.09	3.0	0.12
Front-To-Rear Deflection	-	$\Delta H$	-	-	2.0	0.08
Feed Hole To Bottom Of Component	TBS-1	H1	17.5	0.69	18.5	0.73
	TBS-2		21.5	0.85	22.5	0.89
	TBS-3		25.5	1.00	26.5	1.04
	TBS-4		27.5	1.08	28.5	1.12
	TBS-5		22.5	0.89	23.5	0.93
	TBS-6		19.9	0.78	20.9	0.82
	TBS-7		24.0	0.94	25.0	0.98
	TBS-8		24.5	0.96	25.5	1.00
	TBS-9		19.0	0.75	20.0	0.79
	TBS-10		18.4	0.72	19.4	0.76
	TBS-11		21.0	0.83	22.0	0.87
	TBS-12		20.5	0.81	21.5	0.85
	TBS-13		18.0	0.71	19.0	0.75
Remark: TBS= Tape and Box Straight Leads						
Feed Hole To Overall Component Heigh	-	H2	-	-	36.0	1.42
Lead Length After Component Height	-	L	WO		11.0	0.43
Feed Hole Pitch	-	P	12.4	0.49	13.0	0.51
Lead Location	-	P1	4.4	0.17	5.8	0.23
Center Of Component Location	-	P2	5.1	0.20	7.7	0.3
Overall Taped Package Thickness	-	T	-	-	1.42	0.06
Feed Hole Location	-	W0	8.5	0.33	9.75	0.38
Adhesive Tape Width	-	W1	14.5	0.57	15.5	0.61
Adhesive Tape Position	-	W2	-	-	4.0	0.16
Tape Width	-	W3	17.5	0.69	19.0	0.75
Overall Length	-	L	330.0	13.00	340.0	13.40
Overall Width	-	W	265.0	10.4	275.0	10.80
Overall Thickness	-	H	50.0	1.97	60.0	2.40

### Package Dimensions

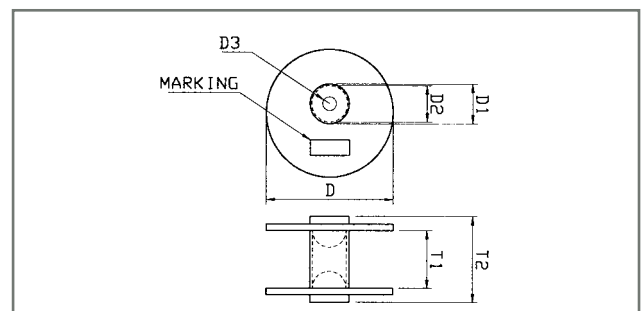
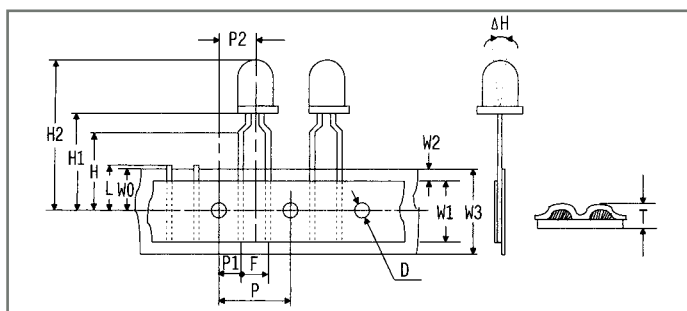


## LED LAMPS IN TAPE & Forming

## Dimintions Symbol Information

Symbol items	Option Code	Symbol	Specifications			
			Minimum		Maximum	
			mm	inch	mm	inch
Tape feed Hole Diameter	-	D	3.8	0.15	4.2	0.17
Component Lead Pitch	-	F	4.8	0.19	5.8	0.23
Front-To-Rear Deflection	-	$\Delta$ H	-	-	2.0	0.08
Height Of Seting Plane		H	15.5	0.61	16.5	0.65
Feed Hole to Bottom of Component	TRF-1	H1	17.5	0.69	19.5	0.77
	TRF-2		19.0	0.75	21.0	0.83
	TRF-3		22.5	0.89	24.5	0.96
	TRF-4		25.5	1.00	26.5	1.04
	TRF-5		21.5	0.85	22.5	0.89
	TRF-6		20.2	0.80	21.2	0.83
	TRF-7		17.125	0.67	21.125	0.83
	TRF-8		20.0	0.79	22.5	0.89
	TRF-9		26.0	1.02	28.0	1.10
	TRF-11		24.0	0.94	26.0	1.02
	TRF-12		21.0	0.83	23.0	0.91
	TRF-13		19.0	0.75	20.0	0.79
	TRF-14		21.7	0.85	23.7	0.93
	TRF-15		22.5	0.89	23.5	0.93
	TRF-16		17.5	0.69	18.0	0.71
	TRF-17		18.5	0.73	19.5	0.77
	TRF-18		20.5	0.81	21.5	0.85
	TRF-19		25.5	1.00	27.5	1.08
	TRF-20		20.5	0.81	22.5	0.89
	TRF-21		25.0	0.98	27.0	1.06
	TRF-22		22.0	0.87	23.0	0.91
	TRF-23		27.5	1.08	28.5	1.12
	Remark: TRF= Tape and Reel Pre-form Leads					
Feed Hole To Overall Component Heigh	-	H2	-	-	36.0	1.42
Lead Length After Component Height	-	L	WO		11.0	0.43
Feed Hole Pitch	-	P	12.4	0.49	13.0	0.51
Lead Location	-	P1	3.15	0.12	4.55	0.18
Center Of Component Location	-	P2	5.1	0.20	7.7	0.30
Overall Taped Package Thickness	-	T	-	-	1.42	0.06
Feed Hole Location	-	W0	8.5	0.33	9.75	0.38
Adhesive Tape Width	-	W1	14.5	0.57	15.5	0.61
Adhesive Tape Position	-	W2	-	-	4.0	0.16
Tape Width	-	W3	17.5	0.69	19.0	0.75
Reel Diameter	-	D	78.2	3.08	380.0	14.96
Core Diameter	-	D1	34.9	1.37	102.0	4.02
Hue Recess Inside Diameter	-	D2	28.6	1.13	88.0	3.46
Arbor Hole Diameter	-	D3	13.8	0.54	38.1	1.50
Overall Reel Thickness	-	T2	-	-	57.2	2.25
Inside Reel Flange Thickness	-	T1	30.0	1.18	50.0	1.97

### Package Dimensions





## QUALITY CONTROL AND ASSURANCE

- Outgoing Inspection Standard Sampling Plan
- U.S.Ministry of Defense MIL-STD-105E Level II (Single Sampling Plans)
- Critical Defect 0
- Major Defect 0.65
- Minor Defect 1.0
- Reliability Tests

### Reliability Tests For LED Lamps

Test	Test Condition	Description	Reference Standard
Operating Life Test	1. Under Room Temperature 2. If=20mA 3. t=1000hrs (-24hrs,+72hrs)	This test conducted for the purpose of determining the resistance of a part in electrical and thermal stressed.	MIL-STD-750D:1026 MIL-STD-883D:1005 JIS C 7021:B-1
High Temperature Storage Test	1. Ta=105°C±5°C 2. t=1000hrs(-24hrs,+72hrs)	The purpose of this test is the resistance of the device which is laid under condition of high temperature for hours.	MIL-STD-883D:1008 JIS C 7021:B-10
Low Temperature Storage Test	1. Ta=-40°C±5°C 2. t=1000hrs(-24hrs,+72hrs)	The purpose of this test is the resistance of the device which is laid under condition of low temperature for hours	JIS C 7021:B-12
High Temperature High Humidity Test	1. Ta=-65°C±5°C 2. RH=90%-95% 3. t=240hrs ±2hrs	The purpose of this test is the resistance of the device under tropical for hours.	MIL-STD-202F:103B JIS C 7021:B-11
Thermal Shock Test	1. Ta=105°C ±5°C& -40°C±5°C (10min) (10min) 2. Total 10cycles	The purpose of this test is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202F:107D MIL-STD-750D:1051 MIL-STD-883D:1011
Solder Resistance Test	1. T.Sol=260 °C ±5°C 2. Dwell time= 10±1sec	This test is intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme change in temperature when soldering the lead wire.	MIL-STD-202F:210A MIL-STD-750D:2031 JIS C 7021:A-1
Solderability Test	1. T.Sol=245 °C ±5°C 2. Dwell time= 5±1sec	This test is intended to see soldering well performed or not.	MIL-STD-202F:208D MIL-STD-750D:2026 MIL-STD-883D:2003 JIS C 7021:A-2

ISO/TS 16949  
BUREAU VERITAS  
Certification



ACCREDITED COMPANY  
BS EN ISO 14001:2004

Registration Number  
046

INTERNATIONAL  
OHSAS  
18001



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