

Round Type LED lamp

5-22B13

Features:

- 5mm Round Type LED lamp
- Ultra brightness.
- Choice of various viewing angles.
- Diffused, Transparent and Water clear lens are available.
- IC compatible /Low current capability.
- RoHs Compliance

Electrical-optical characteristics: (Ta=25°C) (Test Condition: IF=20mA)

Part Number	Chip			Lens Type	Forward Voltage(VF) Unit:V		Luminous Intensity (lv) Unit:mcd		Viewing Angle 2θ 1/2 (deg)
	Emitted Color	Material	Wave length λ (nm)		Typ	Max	Min.	Typ.	
5-22B13-WCSR	Hi Red	AlGaAs,SH	660	Water Clear	1.85	2.20	50	250	20
5-22B13-WCLR	Super Red	AlGaAs,DH	660		1.85	2.20	250	600	
5-22B13-WCUR	Ultra Red	AlGaAs,DDH	660		1.95	2.20	600	1000	
5-22B13-WCUE	Ultra Orange	AlGaInP	630		2.10	2.50	800	2000	
5-22B13-WCUY	Ultra Yellow	AlGaInP	590		2.10	2.50	1000	2200	
5-22B13-WCUG	Ultra Green	AlGaInP	574		2.20	2.50	300	700	
5-22B13-WCPG	Ultra Pure Green	InGaN	525		3.80	4.50	2000	5000	
5-22B13-WCBG	Ultra Bluish Green	InGaN	505		3.80	4.50	1800	4000	
5-22B13-WCUB	Ultra Blue	InGaN	470		2.70	4.20	2000	5000	
5-22B13-WCUV	UV	InGaN	405		3.80	4.50	80	150	
5-22B13-WCUW	Ultra White	InGaN	/		2.70	4.20	3000	10000	
5-22B13-CDSR	Hi Red	AlGaAs,SH	660	Diffused	1.85	2.20	20	80	60
5-22B13-CDLR	Super Red	AlGaAs,DH	660		1.85	2.20	50	120	
5-22B13-CDUR	Ultra Red	AlGaAs,DDH	660		1.95	2.20	100	220	
5-22B13-CDUE	Ultra Orange	AlGaInP	630		2.10	2.50	120	300	
5-22B13-CDUY	Ultra Yellow	AlGaInP	590		2.10	2.50	120	320	
5-22B13-CDUYO	Ultra Yellow	AlGaInP	619		2.10	2.50	120	320	
5-22B13-CDUG	Ultra Green	AlGaInP	574		2.20	2.50	45	100	
5-22B13-CDPG	Ultra Pure Green	InGaN	525		3.80	4.50	400	900	
5-22B13-CDBG	Ultra Bluish Green	InGaN	505		3.80	4.50	300	800	
5-22B13-CDUB	Ultra Blue	InGaN	470		2.70	4.20	400	900	
5-22B13-CDUW	Ultra White	InGaN	/		2.70	4.20	1000	2000	

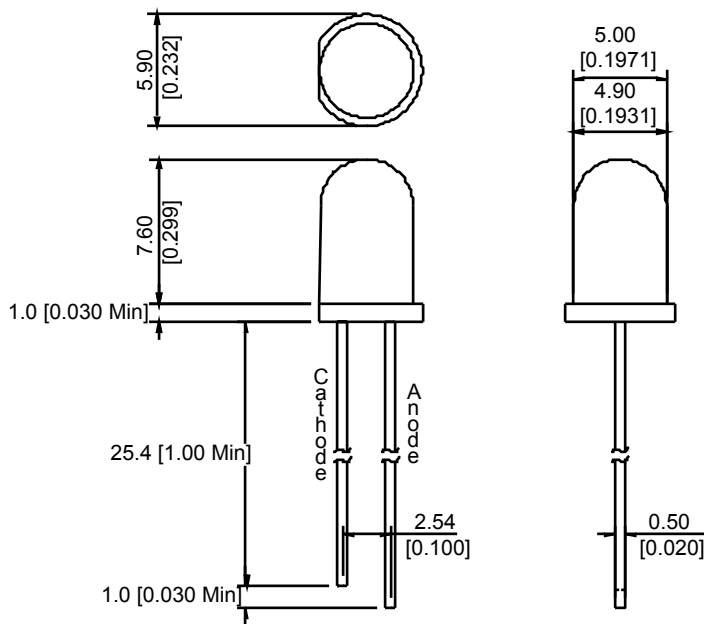
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Absolute maximum ratings (Ta=25°C)

Parameter	SR	LR	UR	UE	UY	UG	PG	BG	B	UB	UV	UW	Unit
Forward Current I_F	25	25	25	30	30	30	30	30	30	30	30	30	mA
Power Dissipation P_d	60	60	60	65	65	75	110	110	120	120	120	120	mW
Reverse Voltage V_R	5	5	5	5	5	5	5	5	5	5	5	5	V
Peak Forward Current I_{PF} (Duty 1/10 @1KHZ)	150	150	150	150	150	150	150	100	100	100	100	100	mA
Operation Temperature T_{OPR}	-40 to +80												°C
Storage Temperature T_{STG}	-40 to +85												°C
Lead Soldering Temperature TSOL	Max.260±5°C for 3 sec Max. (1.6mm from the base of the epoxy bulb)												°C

Package configuration & Internal circuit diagram



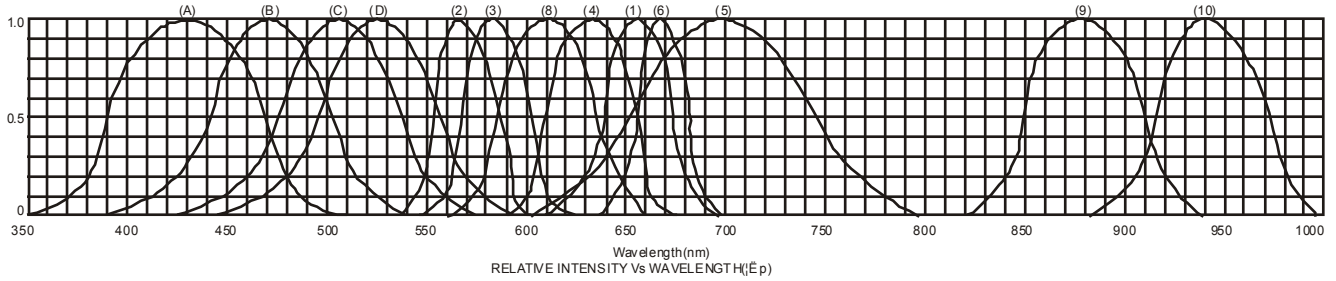
Notes:

1. All dimensions are in millimeters (inches)
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

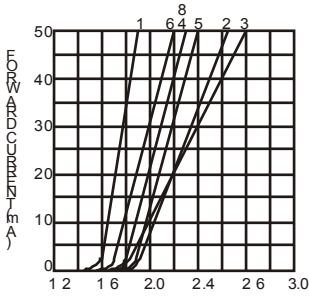
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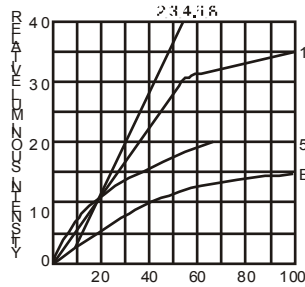
Typical electrical-optical characteristics curves:



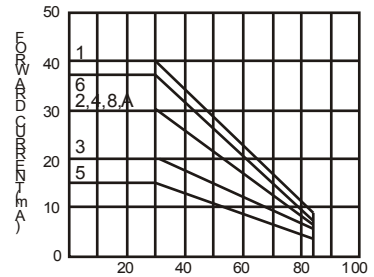
- (1) - GaAsP/GaAs 655nm/Red
- (2) - GaP 570nm/Yellow Green
- (3) - GaAsP/GaP 585nm/Yellow
- (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) - GaP 700nm/Bright Red
- (6) - GaAlAs/GaAs 660nm/Super Red
- (8) - GaAsP/GaP 610nm/Super Red
- (9) - GaAlAs 880nm
- (10) - GaAs/GaAs & GaAlAs/GaAs 940nm
- (A) - GaN/SiC 430nm/Blue
- (B) - InGaN/SiC 470nm/Blue
- (C) - InGaN/SiC 505nm/Ultra Green
- (D) - InGaAlSiC 525nm/Ultra Green



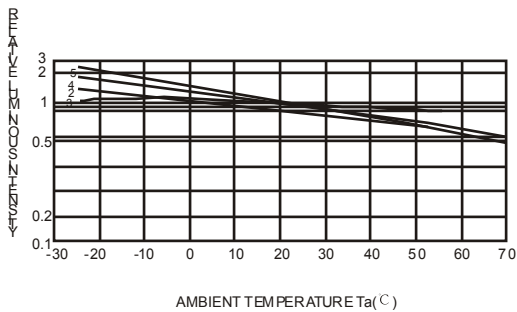
FORWARD VOLTAGE (Vf)
FORWARD CURRENT VS.
FORWARD VOLTAGE



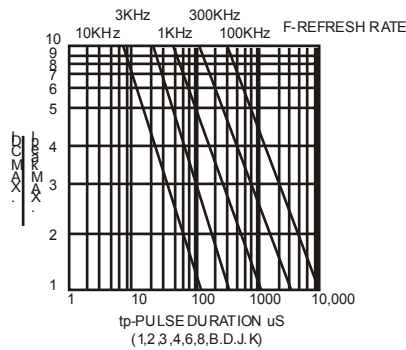
FORWARD CURRENT (mA)
RELATIVE LUMINOUS
INTENSITY VS. FORWARD
CURRENT



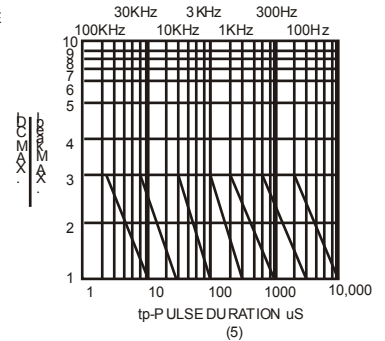
AMBIENT TEMPERATURE Ta(°C)
FORWARD CURRENT VS. AMBIENT
TEMPERATURE



AMBIENT TEMPERATURE Ta(°C)



tp-PULSE DURATION µs
(1,2,3,4,6,8,B,D,J,K)



tp-PULSE DURATION µs
(5)

NOTE: 25°C free air temperature unless otherwise specified