



MASTER INSTRUMENT CORPORATION

MODEL NO. : ML50W13H-BEC

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■Features:

- HIGH LUMINOUS INTENSITY (WHITE EMISSION).
- HIGH EFFICIENCY 5.0LM/W
- TYPICAL EMISSION COLOR: X=0.29, Y=0.30
- GRENERAL COLOR RENDERING INDEX, Ra=85
- 15 DEGREE VIEW ANGLE

■Applications:

- DIRECT LIGHT ONLY

Dics Material	Light Color	Lens Color
InGaN	White	Water Clear

Absolute Ratings

(Ta=25°C)

Item	Symbol	Maximum	Unit
Power Dissipation	P _D	110	mW
Continuous Forward Current	I _F	25	mA
Peak Forward Current (1/10 Duty Cycle 0.1ms Pulse Width)	I _{FP}	100	mA
Reverse Voltage	V _R	5	V
Derating Linear Form 25°C		0.36	MA/°C
Operating temperature Range	Topr	-20 to +80	°C
Storage Temperature Range	Tstg	-30 to +85	°C
Electrostatic Discharge Threshold (HBM)	E _{ot}	1000	V

****Condition for IFP is pulse of 1/10 duty and 0.1 msec width.**

****Solder temperature 1.6mm from body for 5 seconds at 250°C ±5°C.**

****Caution in ESD: Static Electricity and surge damages the LED. It is recommend to use a wrist band or anti-electrostatic glove when handling the LED. All devices, Equipment and machinery must be properly grounded.**

CHARACTERISITIC

(Ta=25°C)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V _F	IF=20mA		3.5	4.0	V
Reverse Current	I _R	VR=5V			10	uA
Viewing Angle	2θ _{1/2}	IF=20mA		15		Deg
Luminous Intensity	I _V	IF=20mA	1500	2000		mcd

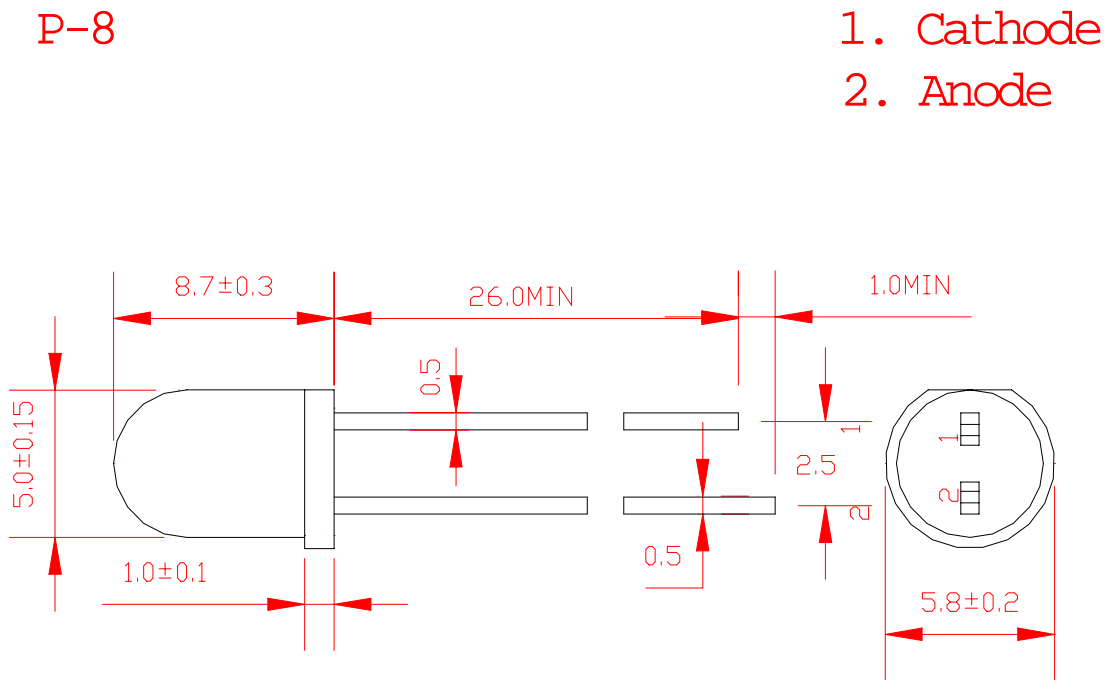


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◆ Package Dimensions (Unit: mm)





◆ Typical Optical-Electrical Characteristic Curves

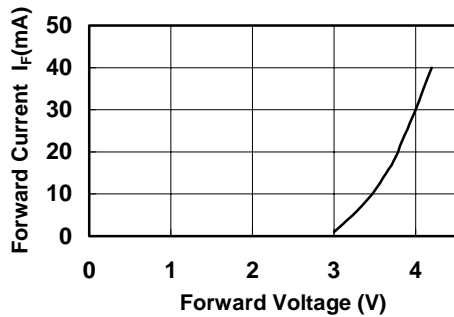


FIG1. FORWARD CURRENT VS. FORWARD VOLTAGE

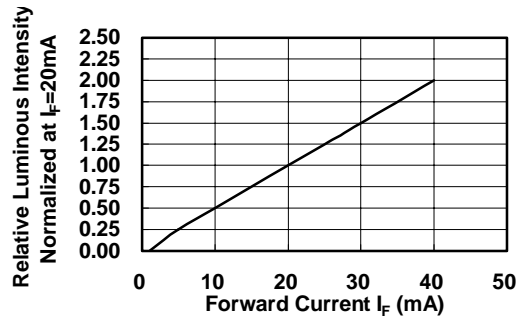


FIG2. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

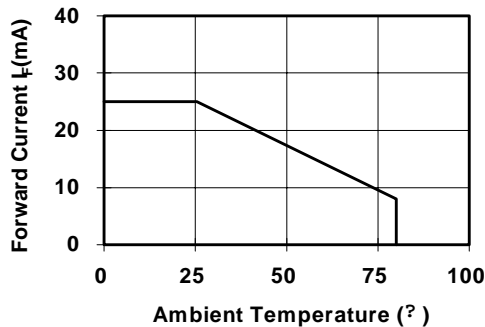


FIG3-27. FORWARD CURRENT VS. AMBIENT TEMPERATURE

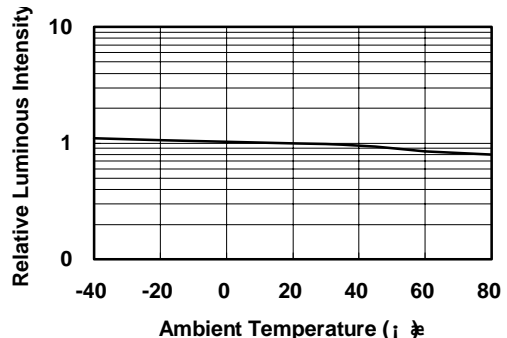
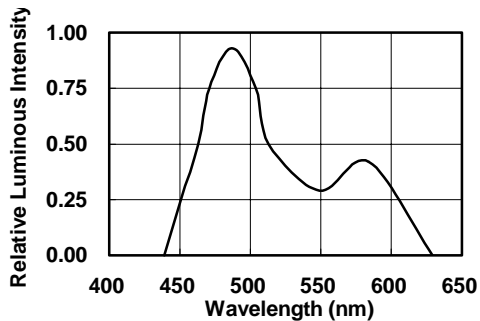


FIG4. LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE



RELATIVE INTENSITY LUMINOUS VS. WAVELENGTH

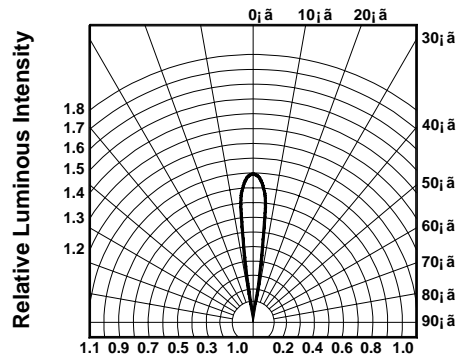


FIG6-46. SPATIAL DISTRIBUTION