

945nm single color LED Diode



- **Product Description**

The 945nm IR emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

- **Product features**

TO-18 Metal Can Domed Package; Narrow Beam Angle ; High Reliability

- **Part Number**

MP-LED-945-5.5-TO18



● Application area

Optical Switches / Security Systems | Linear & Rotary Encoder | Remote Controls / Robotics | Card Readers / Medical Electronics

● Core parameters

Center wavelength
945nm

● General Parameters

Absolute Maximum Ratings (Ta=25°C)

Items	Symbol	Ratings	Unit
Forward Current(DC)	IF	100	mA
Forwarded Current(Pulse)*1	IFP	1	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	180	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

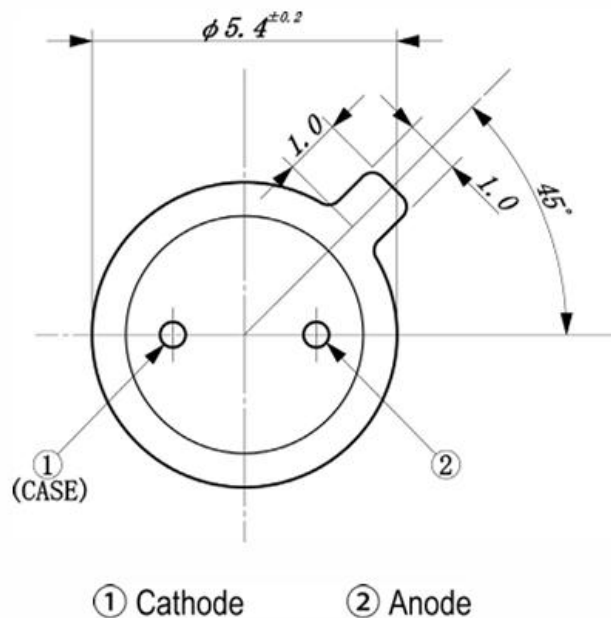
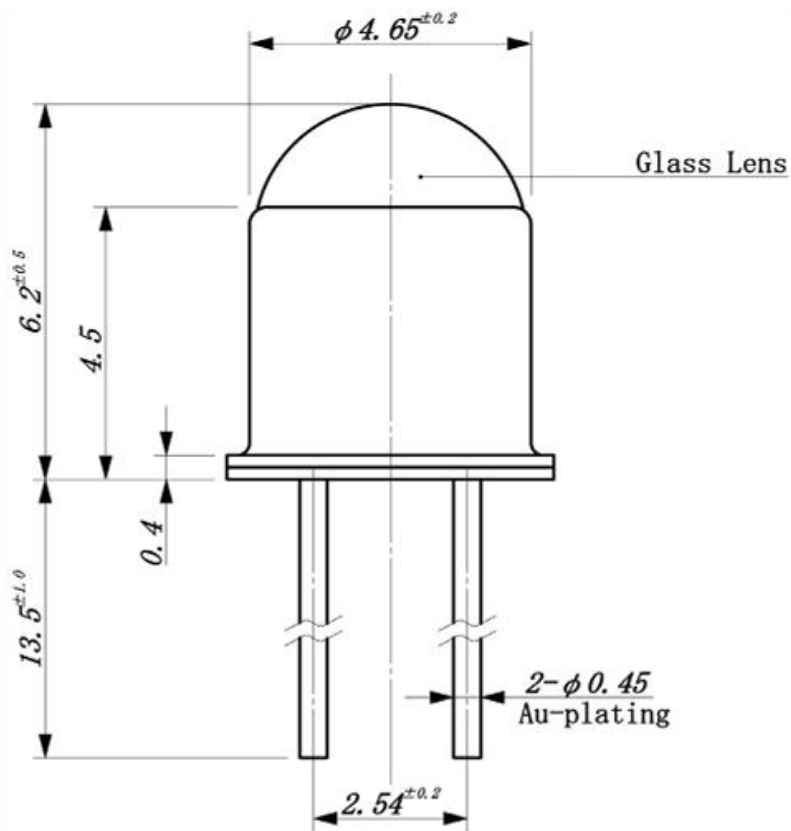
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.



Electrical & Optical Characteristics (Ta = 25°C)

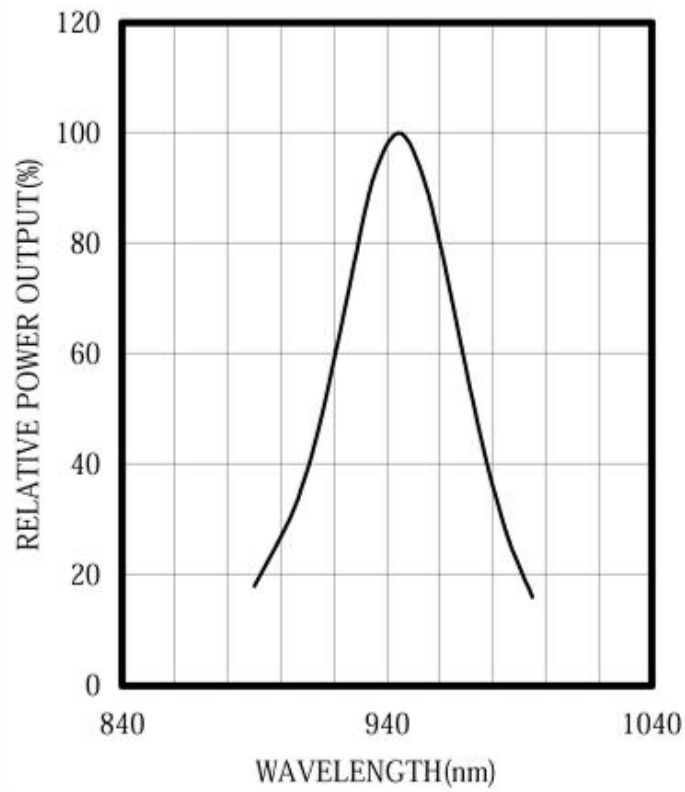
Items	Symbol	Test Condition	Min.	Typical	Max.	Unit
Power Output	PO	IF=50mA	--	5.5	--	mW
Forward Voltage	VF	IF=50mA	--	1.35	1.7	V
Reverse Current	IR	VR=5V	--	--	10	μA
Peak Emission Wavelength	λp	IF=50mA	--	945	--	nm
Spectra Line Half Width	Δλ	IF=50mA	--	20	--	nm
Half Intensity Beam Angle	θ	IF=50mA	--	±8	--	°
Rise Time	Tr	IF=50mA	--	1.0	--	ns
Fall Time	Tf	If=50mA	--	1.0	--	ns
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.3	--	mV/°C

Package Dimensions and Electro-Optical Characteristics

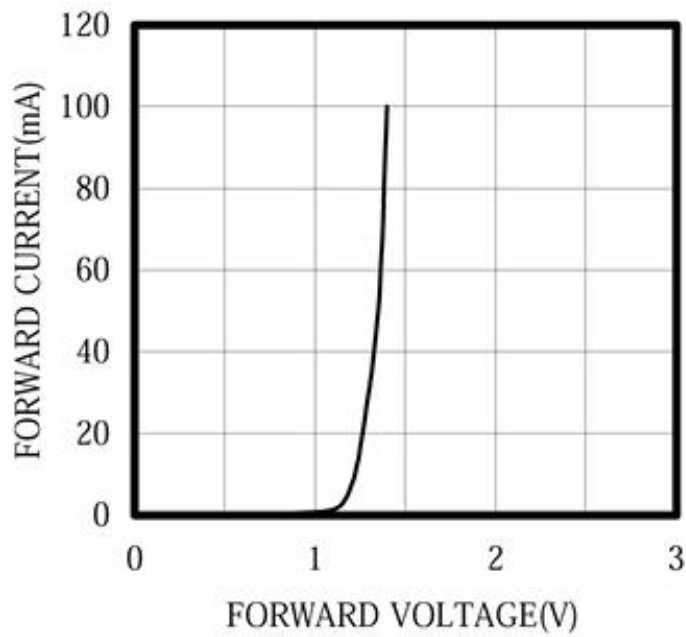




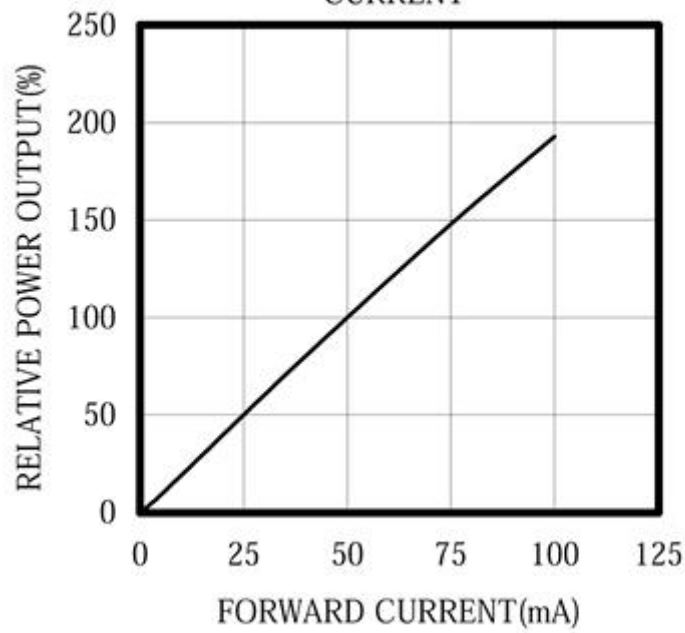
SPECTRAL OUTPUT



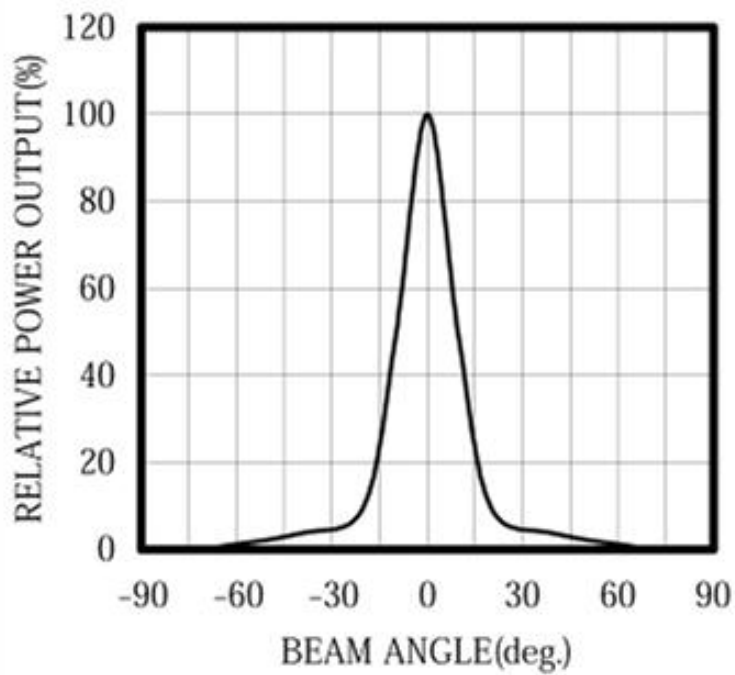
FORWARD I-V CHARACTERISTICS



RELATIVE POWER vs FORWARD CURRENT

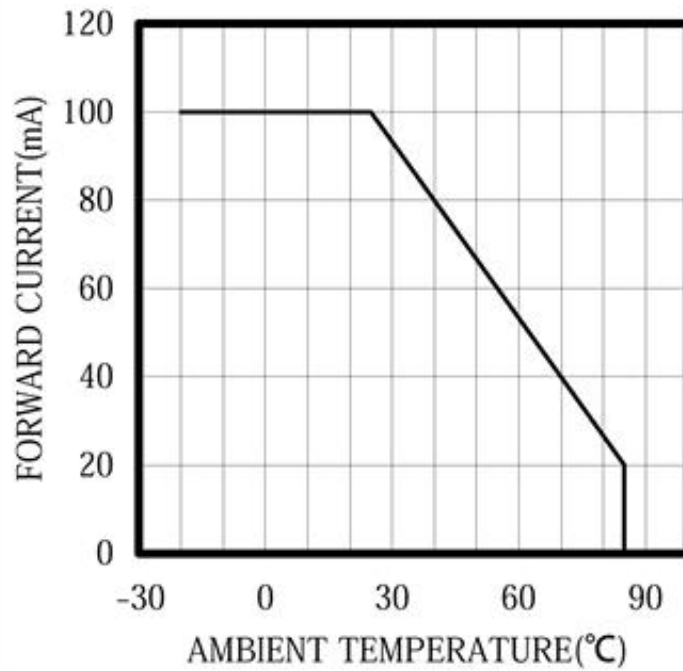


RADIATION PATTERN

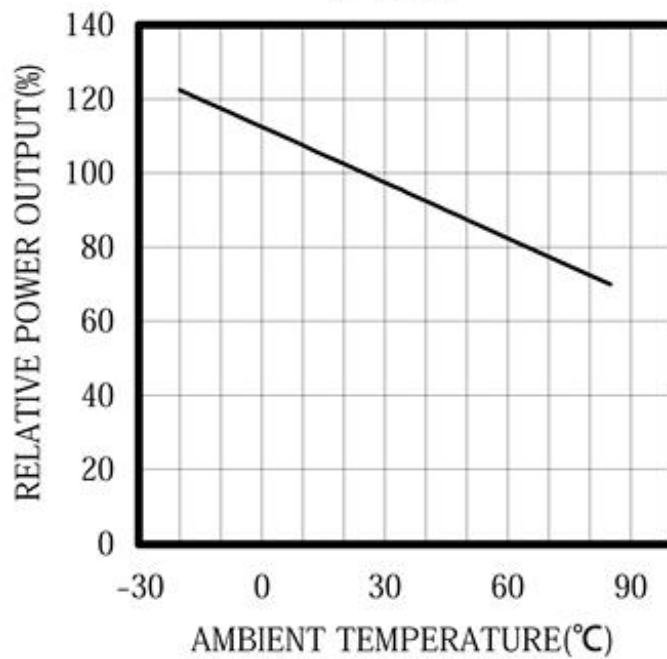




THERMAL DERATING CURVE



POWER OUTPUT vs TEMPERATURE IF=10mA





FORWARD VOLTAGE vs
TEMPERATURE
IF=10mA

