

1N5909

(Formerly MLED455)

VISIBLE RED LIGHT-EMITTING DIODE

... designed for panel mount applications where small size and plug-in package are desirable.

- JEDEC Registered for Guaranteed Mechanical and Electrical Conformity
- High Luminous Intensity
- Economical Plastic Package
- Solid-State Reliability
- Red Diffusing Lens
- IC Compatible — Low Power Consumption
- Wide Viewing Angle — 75°

MINIATURE LIGHT EMITTING DIODE VISIBLE RED PN GALLIUM ARSENIDE PHOSPHIDE



MAXIMUM RATINGS

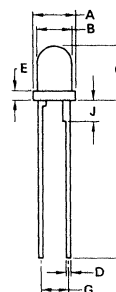
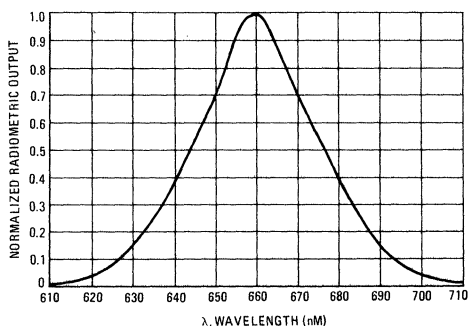
Rating	Symbol	Value	Unit
Reverse Voltage	V_R	4.0	Volts
*Forward Current — $T_A = 25^\circ\text{C}$	I_F	35	mA
*Peak Pulse Current (Pulse Width = 1.0 μs , $f = 10 \text{ kHz}$)	i_F	1000	mA
*Total Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	75 1.0	mW mW/ $^\circ\text{C}$
*Operating and Storage Temperature Range	T_A, T_{stg}	-40 to +100	$^\circ\text{C}$

*THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Soldering Temperature 1/16" from Case for 10 seconds	—	240	$^\circ\text{C}$

*Indicates JEDEC Registered Data.

FIGURE 1 — NORMALIZED RADIOMETRIC
OUTPUT versus WAVELENGTH



NOTE:
1. CATHODE
2. ANODE

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.68	3.94	0.145	0.155
B	2.92	3.18	0.115	0.125
C	4.95	5.21	0.195	0.205
D	0.38	0.48	0.015	0.019
E	0.76	1.02	0.030	0.040
F	0.20	0.30	0.008	0.012
G	2.41	2.67	0.095	0.105
J	1.78	2.03	0.070	0.080
K	12.70	—	0.500	—

CASE 292-01

*ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted.)

Characteristic	Fig. No.	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ($I_R = 100\ \mu\text{A}$)	—	BV_R	4.0	—	—	Volts
Forward Voltage ($I_F = 20\ \text{mA}$)	2	V_F	—	1.6	2.0	Volts

OPTICAL CHARACTERISTICS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted.)

*Axial Luminous Intensity(1) ($I_F = 20\ \text{mA}$)	3,4,5	I_O	0.3	1.2	—	mcd
Effective Luminous Area	—	—	—	0.01	—	Square-Inch Circle
Peak Emission Wavelength	—	λ_p	—	660	—	nM
Spectral Line Half Width	—	$\Delta\lambda$	—	30	—	nM

(1) Axial Luminous Intensity (I_O) is measured using an International Commission on Illumination corrected Photometer and a measurement solid angle of 0.003 Steradian.

* Indicates JEDEC Registered Data.

TYPICAL CHARACTERISTICS

FIGURE 2 – FORWARD CHARACTERISTICS

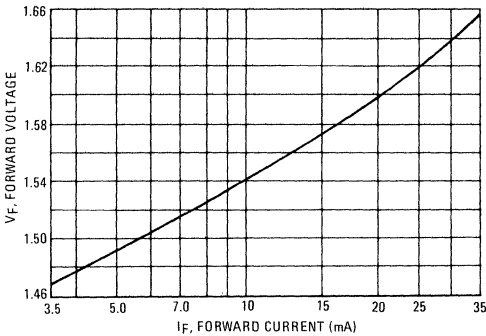


FIGURE 3 – AXIAL LUMINOUS INTENSITY versus JUNCTION TEMPERATURE

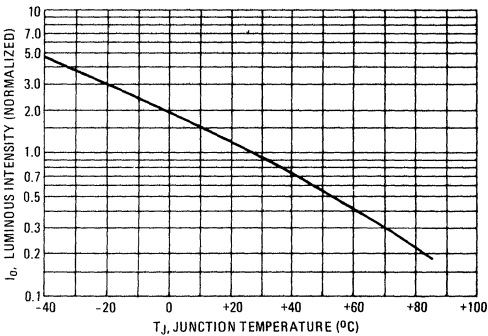


FIGURE 4 – AXIAL LUMINOUS INTENSITY versus FORWARD CURRENT

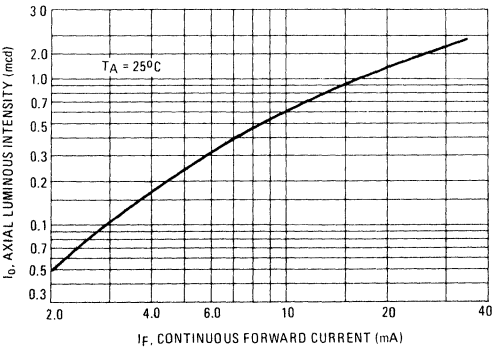


FIGURE 5 – SPATIAL RADIATION PATTERN

