



**LED55B**

**LED55C**

**LED56**

**ABSOLUTE MAXIMUM RATINGS** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	$T_{OPR}$	-65 to +125	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-65 to +150	$^\circ\text{C}$
Soldering Temperature (Iron) <sup>(3,4,5 and 6)</sup>	$T_{SOL-I}$	240 for 5 sec	$^\circ\text{C}$
Soldering Temperature (Flow) <sup>(3,4 and 6)</sup>	$T_{SOL-F}$	260 for 10 sec	$^\circ\text{C}$
Continuous Forward Current	$I_F$	100	mA
Forward Current (pw, 1 $\mu$ s; 200Hz)	$I_F$	10	A
Reverse Voltage	$V_R$	3	V
Power Dissipation ( $T_A = 25^\circ\text{C}$ ) <sup>(1)</sup>	$P_D$	170	mW
Power Dissipation ( $T_C = 25^\circ\text{C}$ ) <sup>(2)</sup>	$P_D$	1.3	W

**NOTE:**

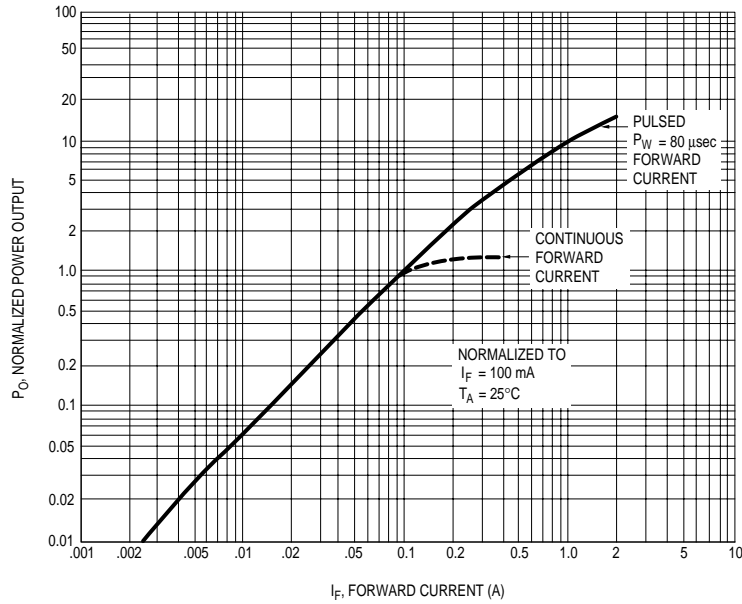
1. Derate power dissipation linearly 1.70 mW/ $^\circ\text{C}$  above 25 $^\circ\text{C}$  ambient.
2. Derate power dissipation linearly 13.0 mW/ $^\circ\text{C}$  above 25 $^\circ\text{C}$  case.
3. RMA flux is recommended.
4. Methanol or isopropyl alcohols are recommended as cleaning agents.
5. Soldering iron tip 1/16" (1.6mm) minimum from housing.
6. As long as leads are not under any stress or spring tension
7. Total power output,  $P_O$ , is the total power radiated by the device into a solid angle of  $2\pi$  steradians.

**ELECTRICAL / OPTICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$ ) (All measurements made under pulse conditions)

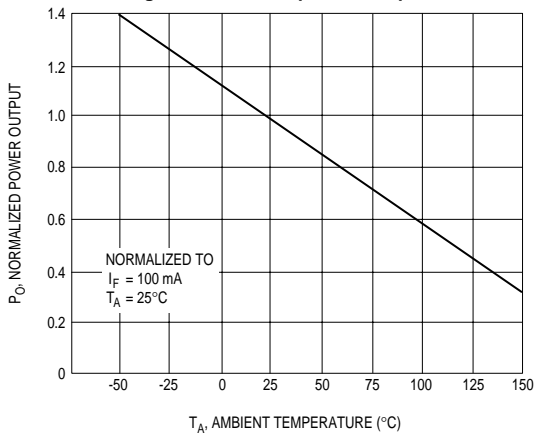
PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Peak Emission Wavelength	$I_F = 100\text{ mA}$	$\lambda_P$	—	940	—	nm
Emission Angle at 1/2 Power	$I_F = 100\text{ mA}$	$\Theta$	—	$\pm 8$	—	Deg.
Forward Voltage	$I_F = 100\text{ mA}$	$V_F$	—	—	1.7	V
Reverse Leakage Current	$V_R = 3\text{ V}$	$I_R$	—	—	10	$\mu\text{A}$
Total Power LED55B <sup>(7)</sup>	$I_F = 100\text{ mA}$	$P_O$	3.5	—	—	mW
Total Power LED55C <sup>(7)</sup>	$I_F = 100\text{ mA}$	$P_O$	5.4	—	—	mW
Total Power LED56 <sup>(7)</sup>	$I_F = 100\text{ mA}$	$P_O$	1.5	—	—	mW
Rise Time 0-90% of output		$t_r$	—	1.0	—	$\mu\text{s}$
Fall Time 100-10% of output		$t_f$	—	1.0	—	$\mu\text{s}$

**TYPICAL PERFORMANCE CURVES**

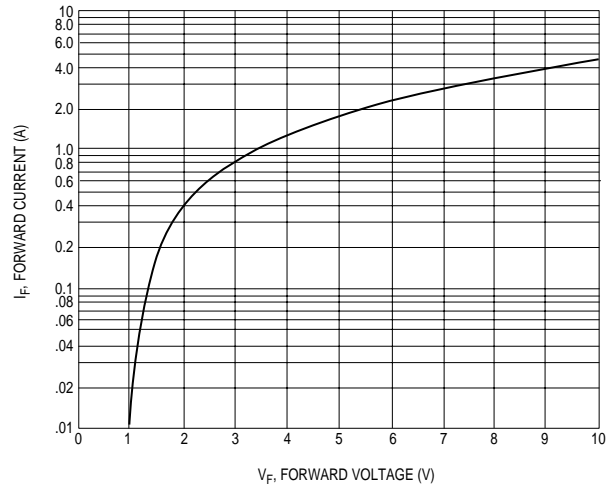
**Figure 1. Power Output vs. Input Current**



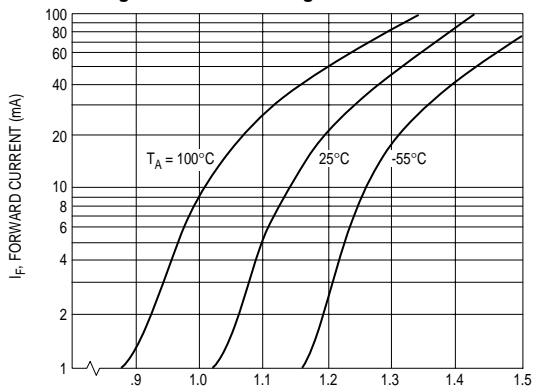
**Figure 2. Power Output vs. Temperature**



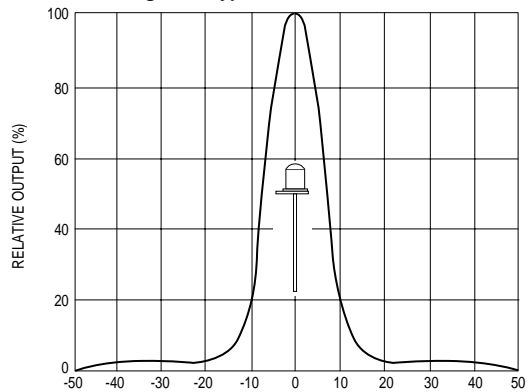
**Figure 3. Forward Voltage vs. Forward Current**



**Figure 4. Forward Voltage vs. Forward Current**



**Figure 5. Typical Radiation Pattern**





# GaAs INFRARED EMITTING DIODE

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