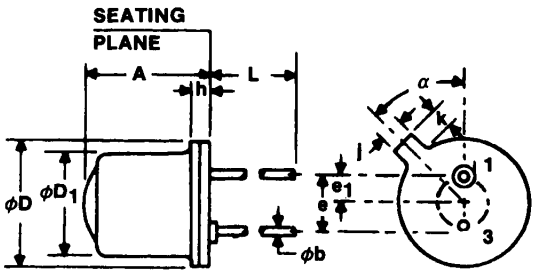
OPTOELECTRONICS

GaAs INFRARED EMITTING DIODE

LED55B/C, LED56

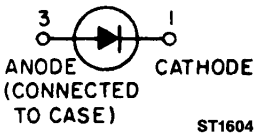
PACKAGE DIMENSIONS



ST1332

SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN.	MAX.	MIN.	MAX.	
A		.255		6.47	
Ⓜb	.016	.021	.407	.533	
ⓂD	.209	.230	5.31	5.84	
ⓂD$_1$	.180	.188	4.57	4.77	
e	.100 NOM.		2.54 NOM.		2
e$_1$	.050 NOM.		1.27 NOM.		2
h		.030		.76	
j	.031	.044	.79	1.11	
k	.036	.046	.92	1.16	1
L	1.00		25.4		
α	45°	45°	45°	45°	3

PACKAGE OUTLINE



ST1604

NOTES:
1. MEASURED FROM MAXIMUM DIAMETER OF DEVICE.
2. LEADS HAVING MAX. DIAMETER .021" (.533mm) MEASURED IN GAUGING PLANE .054" + .001" – .000 (137 + 025 – 000mm) BELOW THE REFERENCE PLANE OF THE DEVICE SHALL BE WITHIN .007" (.778mm) THEIR TRUE POSITION RELATIVE TO A MAXIMUM WIDTH TAB.
3. FROM CENTERLINE TAB.

DESCRIPTION

The LED55B/C and LED56 are 940nm LEDs in a narrow angle, TO-46 package.

FEATURES

- Good optical to mechanical alignment
- Mechanically and wavelength matched to the TO-18 series phototransistor
- Hermetically sealed package
- High irradiance level

QT OPTOELECTRONICS

GaAs INFRARED EMITTING DIODE

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C Unless Otherwise Specified)

Storage Temperature	−65°C to +150°C
Operating Temperature	−65°C to +125°C
Soldering:	
Lead Temperature (Iron)	240°C for 5 sec.[3,4,5,6]
Lead Temperature (Flow)	260°C for 10 sec.[3,4,6]
Continuous Forward Current	100 mA
Forward Current (pw, 1μS; 200 Hz)	10 A
Reverse Voltage	3 Volts
Power Dissipation (T_A = 25°C)	170 mW[1]
Power Dissipation (T_C = 25°C)	1.3 W[2]

ELECTRICAL CHARACTERISTICS (T_A = 25°C Unless Otherwise Specified)
(All measurements made under pulse conditions.)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
Forward Voltage	V_F	—		1.7	V	I_F = 100 mA
Reverse Leakage Current	I_R	—		10	μA	V_R = 3 V
Peak Emission Wavelength	λ_p		940		nm	I_F = 100 mA
Emission Angle at ½ Power	θ		±8		Degrees	
Total Power LED55B	Po	3.5		—	mW	I_F = 100 mA[7]
Total Power LED55C	Po	5.4		—	mW	I_F = 100 mA[7]
Total Power LED56	Po	1.5		—	mW	I_F = 100 mA[7]
Rise Time 0-90% of output	t_r		1.0		μS	
Fall Time 100-10% of output	t_f		1.0		μS	

NOTES

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

OPTOELECTRONICS

GaAs INFRARED EMITTING DIODE

TYPICAL CHARACTERISTICS

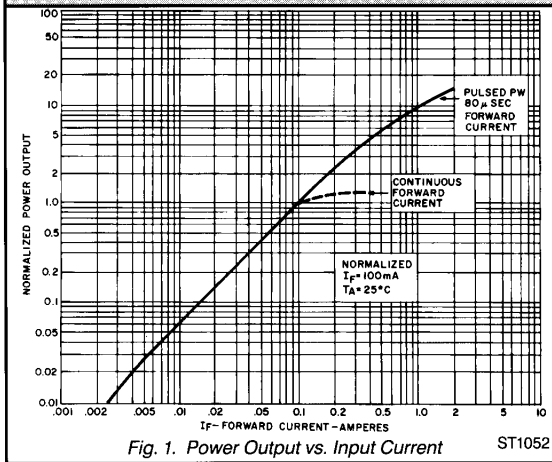


Fig. 1. Power Output vs. Input Current ST1052

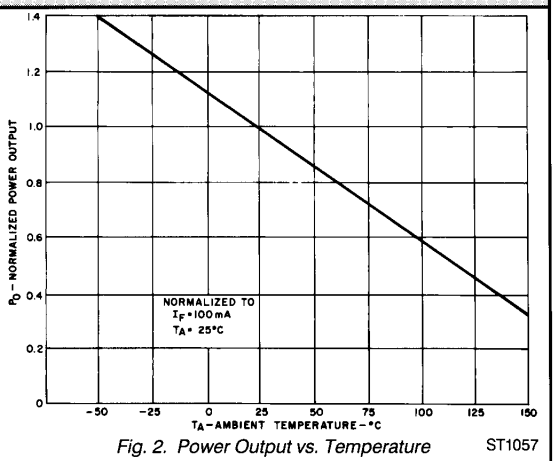


Fig. 2. Power Output vs. Temperature ST1057

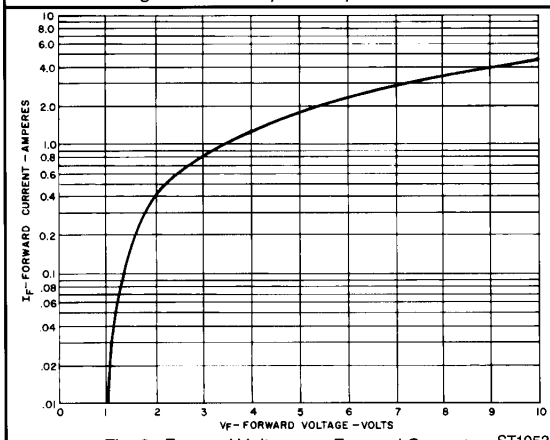


Fig. 3. Forward Voltage vs. Forward Current ST1053

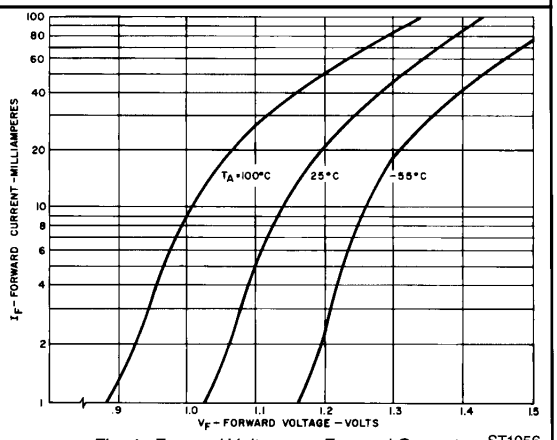


Fig. 4. Forward Voltage vs. Forward Current ST1056

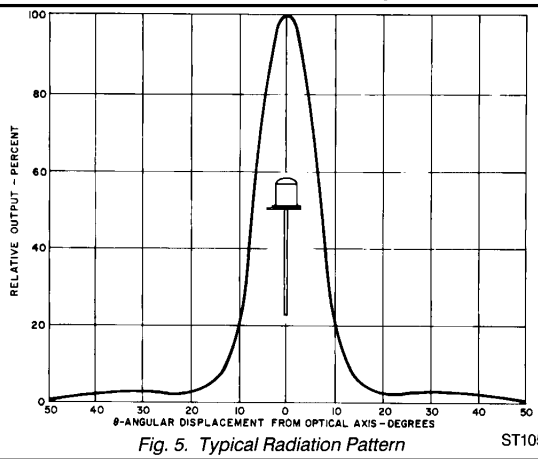


Fig. 5. Typical Radiation Pattern ST1054