SE3455/5455

GaAs Infrared Emitting Diode

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Total Power Output	P_O				mW	I_F=100 mA
SE3455-001, SE5455-001		2.0				
SE3455-002, SE5455-002		3.5				
SE3455-003, SE5455-003		4.8				
SE3455-004, SE5455-004		5.4				
Forward Voltage	V_F			1.7	V	I_F=100 mA
Reverse Breakdown Voltage	V_{BR}	3.0			V	I_R=10 µA
Peak Output Wavelength	λ_p		935		nm	
Spectral Bandwidth	$\Delta\lambda$		50		nm	
Spectral Shift With Temperature	$\Delta\lambda_p/\Delta_T$		0.3		nm/°C	
Beam Angle (1)	Ø				degr.	I_F=Constant
SE3455			90			
SE5455			20			
Radiation Rise And Fall Time	t_r, t_f		0.7		µs	

Notes
1. Beam angle is defined as the total included angle between the half intensity points.

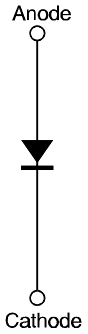
ABSOLUTE MAXIMUM RATINGS

(25°C Free-Air Temperature unless otherwise noted)

Continuous Forward Current	100 mA
Peak Forward Current (1µs pulse width, 300 pps)	3 A
Power Dissipation	150 mW (1)
Operating Temperature Range	-55°C to 125°C
Storage Temperature Range	-65°C to 150°C
Soldering Temperature (10 sec)	260°C

Notes
1. Derate linearly from 25°C free-air temperature at the rate of 1.43 mW/°C.

SCHEMATIC



SE3455/5455

GaAs Infrared Emitting Diode

Fig. 1 Radiant Intensity vs Angular Displacement (SE3455)

gra_017.ds4

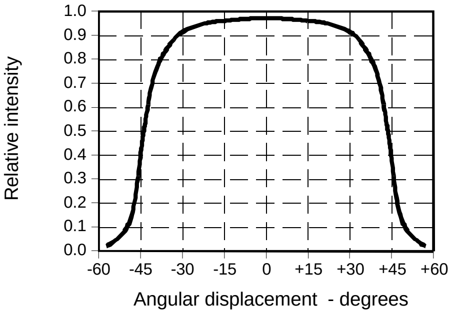


Fig. 2 Radiant Intensity vs Angular Displacement (SE5455)

gra_023.ds4

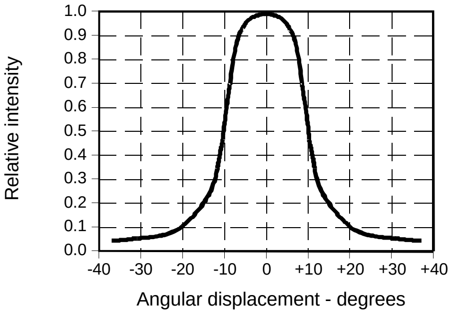


Fig. 3 Radiant Intensity vs Forward Current

gra_018.ds4

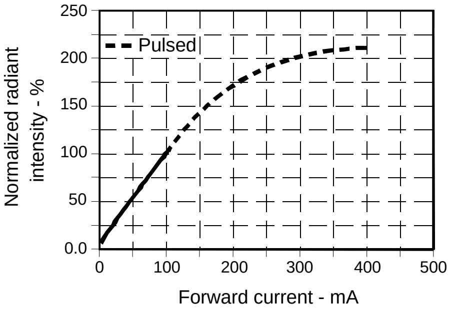


Fig. 4 Forward Voltage vs Forward Current

gra_019.ds4

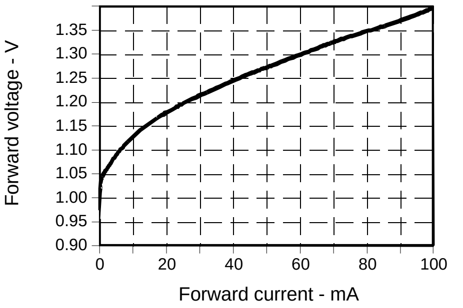


Fig. 5 Forward Voltage vs Temperature

gra_020.ds4

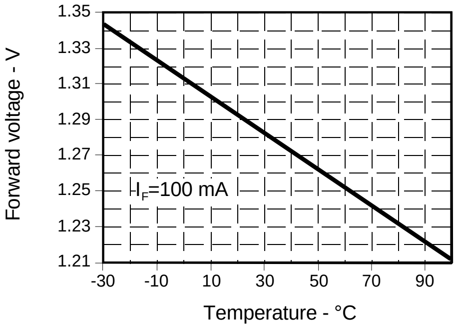
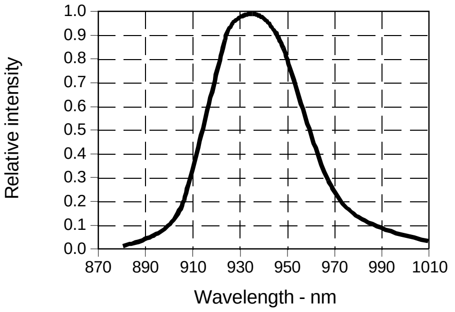


Fig. 6 Spectral Bandwidth

gra_005.ds4



SE3455/5455

GaAs Infrared Emitting Diode

Fig. 7 Coupling Characteristics
SE3455 with SD3443

gra_021.ds4

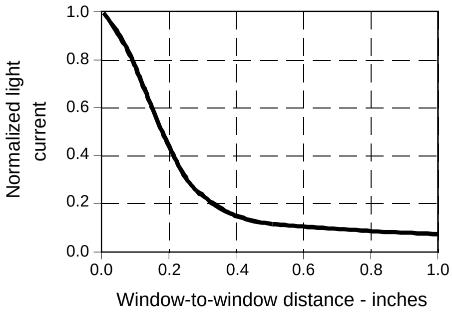


Fig. 8 Coupling Characteristics
SE5455 with SD5443

gra_024.ds4

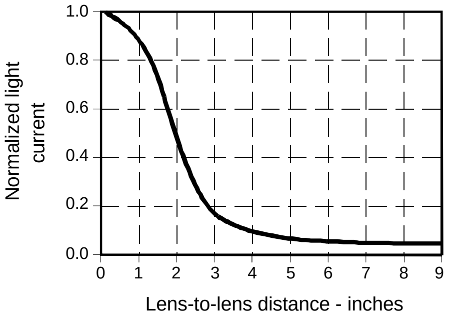
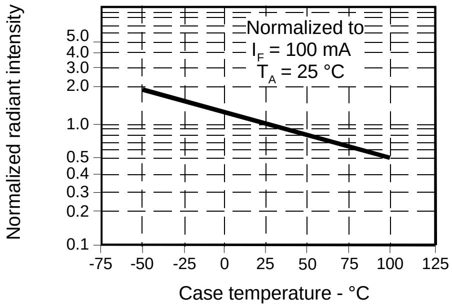


Fig. 9 Radiant Intensity vs
Case Temperature

gra_022.ds4



All Performance Curves Show Typical Values