

LIGHT EMITTING DIODE

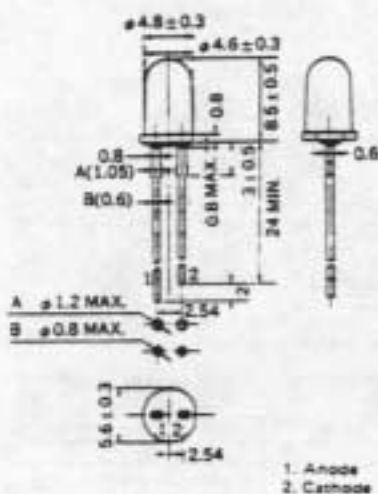
SE303A-C

GaAs INFRARED EMITTING DIODE

DESCRIPTION

The SE303A-C is a GaAs (Gallium Arsenide) infrared Emitting Diode which is mounted on the frames and molded in plastic. On forward bias, it emits a spectrally narrow band of radiation peaking at 940 nm.

PACKAGE DIMENSIONS in millimeters



FEATURES

- Economical.
- High output power.
- Wide half angle. ($\theta(1/2) \approx 25^\circ$ TYP.)
- Good linearity.
- Spectrally matched to silicon sensors.
- Long lead.

APPLICATIONS

- Light source for TV remote control.
- Light source for smoke detector.
- Optical encoders.
- Photochoppers, Isolator.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation ($T_A=25^\circ\text{C}$)	P	150	mW
Maximum Forward Current ($T_A=25^\circ\text{C}$)	I_F	100	mA
Maximum Pulse Forward Current ($T_A=25^\circ\text{C}$)	I_{PP}	1.0	A
Maximum Reverse Voltage ($T_A=25^\circ\text{C}$)	V_R	5.0	V
Maximum Temperatures			
Junction Temperature	T_j	+100	$^\circ\text{C}$
Storage Temperature	T_{stg}	-30 to +85	$^\circ\text{C}$
Operating Temperature	T_{opt}	-40 to +100	$^\circ\text{C}$

ELECTRO-OPTICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Forward Voltage	V_F		1.25	1.4	V	$I_F=50$ mA
Pulse Forward Voltage	V_{FP}		2.1	2.6	V	$I_{FP}=1.0$ A, PW=5 ms
Reverse Current	I_R			10	μA	$V_R=5$ V
Capacitance	C_T		40		pF	$V=0$, $f=1.0$ MHz
Peak Emission Wavelength	λ_{peak}		940		nm	$I_F=50$ mA
Spectral Line Half Width	$\Delta\lambda$		50		nm	$I_F=50$ mA
Peak Output Power	$I_{OP}(C.V.)$		105		mW/ster	$V_{CC}=2.8$ V, $R=2 \Omega$
Peak Output Power	I_{OP}		100		mW/ster	$I_{FP}=500$ mA
Output Power	P_O	5	8		mW	$I_F=50$ mA
Light Turn-On and Turn-Off	t_{on}, t_{off}		1		μs	

* $f=1.0$ kHz, duty cycle 1 %

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TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

