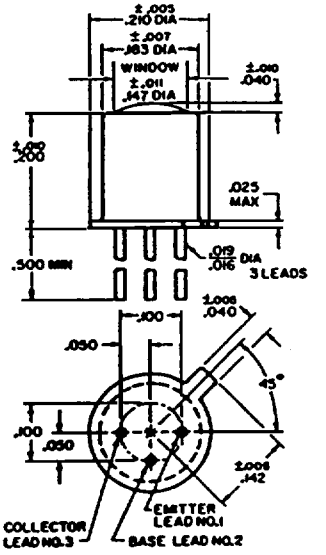
SLR-50L SERIES

NPN SILICON PLANAR EPITAXIAL PHOTODARLINGTON

General Description

The Silonex SLR-50L NPN silicon planar photodarlington series is mounted in a TO-18 high profile lensed hermetically sealed package. The high profile lensed cap allows an acceptance half angle of 10° measured from the optical axis to the half power point. The first stage base lead is connected for those applications where switching control and circuitry biasing is needed. This series of photodarlington devices is ideal in low light applications where higher gain is needed. Spectrally matched to Silonex infrared emitting diodes.



ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Collector-Emitter Voltage	40
Collector-Base Voltage	60
Emitter-Base Voltage	10
Storage Temperature Range	-65°C to +150°C
Operating Temperature Range	-55°C to +125°C
Lead Soldering Temperature (5 Sec.1/16" from case)	240°C
Power Dissipation	250mW
Derate linearly above 25°C	2mW/°C

ELECTRICAL CHARACTERISTICS @ 25°C

			SLR-50L1			SLR-50L2			SLR-50L3			
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	UNITS
$I_L(I_{CEO})$	Collector Light Current	V_{CE}=5V,H*=0.2mw/cm²	0.5			2			4			mA
$I_D(I_{CEO})$	Collector Dark Current	V_{CE}=5V,H=O			100			100			100	nA
BV_{CEO}	Collector to Emitter Breakdown Voltage	I_C=100µA	40			40			40			Volts
BV_{CBO}	Collector to Base Breakdown Voltage	I_C=100µA	60			60			60			Volts
BV_{EBO}	Emitter to Base Breakdown Voltage	I_E=100µA	10			10			10			Volts
V_{CE}(SAT)	Collector to Emitter Saturation Voltage	I_C=10mA,I_B=0.05mA H=O			1.2			1.2			1.2	Volts
tr	Rise time	**R_L=100Ω,I_L=0.5mA		100			100			100		µSec
tf	Fall time	V_{CC}=5.0 Volts		150			150			150		µSec

*The light source is a frosted Tungsten Incandescent lamp @ 2870°K
**The light source is a gallium arsenide LED with a rise time less than 300ns

SIL03012

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