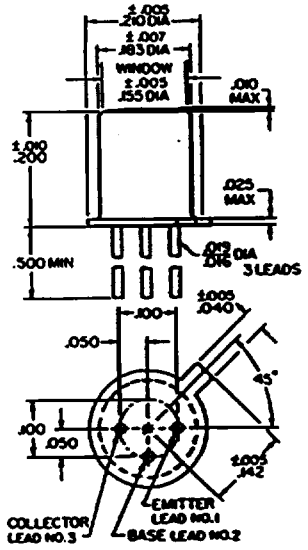
SLR-50F SERIES

NPN SILICON PLANAR EPITAXIAL PHOTODARLINGTON

General Description

The Silonex SLR-50F NPN silicon planar photodarlington series is mounted in a TO-18 flat lensed hermetically sealed package. The flat lensed cap allows an acceptance half angle of 40° 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, 1/8" from case) . . . 240°C
- Power Dissipation 250mW
- Derate linearly above 25°C . . . . . 2mW/°C

ELECTRICAL CHARACTERISTICS @ 25°C

			SLR-50F1			SLR-50F2			SLR-50F3			
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*=2mw/cm²	2			6			14			mA
$I_D(I_{CEO})$	Collector Dark Current	V_{CE}=5V, H=0			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=0			1.2			1.2			1.2	Volts
tr	Rise Time	**RL=100Ω, I_L=0.5mA		100			100			100		µSec
tf	Fall Time	V_{CC}=5.0Volts		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 300 ns

SILOS002

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