STANLEY

PHOTODARLINGTON TRANSISTOR

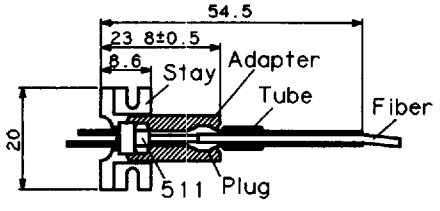
PD511

■ FEATURES

- HIGH SENSITIVITY
  (Ic=5mA TYP.)
- HIGH PRECISION MOLDED PACKAGE

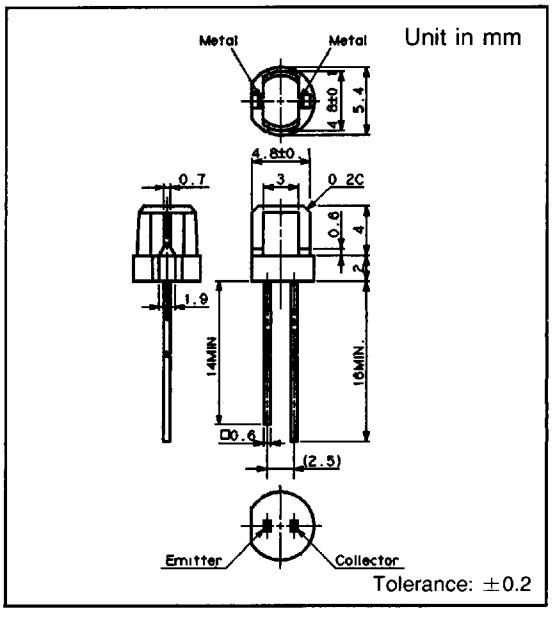
■ APPLICATION

- OPTIC FIBER
  FC-101



ST-LOST3

■ Package Dimensions



■ Absolute Maximum Ratings

(Ta=25°C)

Item	Symbol	Maximum Ratings	Unit
Collector Dissipation	Pc	100	mW
Collector-Emitter Breakdown Voltage	V_{CEO}	20	V
Emitter-Collector Breakdown Voltage	V_{ECO}	5	V
Collector Current	Ic	30	mA
Operating Temperature	Topr	−30～+85	°C
Storage Temperature	Tstg	−30～+100	°C

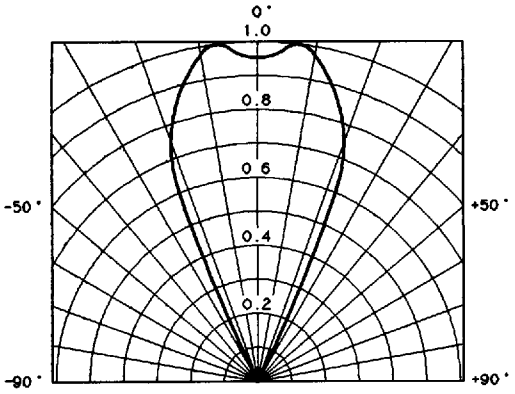
■ Electro-Optical Characteristics

(Ta=25°C)

Item		Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-Emitter Dark Current		I_{CED}	—	—	1	μA	V_{CEP}=10V
Photo Current		Ic	1	5	—	mA	V_{CE}=5V, *Ee=0.1mW/cm²
Response Time	Leading Time	Tr	—	400	—	μ sec	V_{CE}=10V Ic=2mA, R_L=100Ω
	Trailing Time	Tf	—	400	—	μ sec	
Peak Sensitivity Wavelength		λp	—	800	—	nm	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	—	0.7	—	V	Ic=2mA, *Ee=10mW/cm²

* At color temp. 2856°K standard tungsten filament bulb.

DIRECTIVITY CHARACTERISTICS



RELATIVE PHOTO CURRENT vs. RADIANT ILLUMINATION

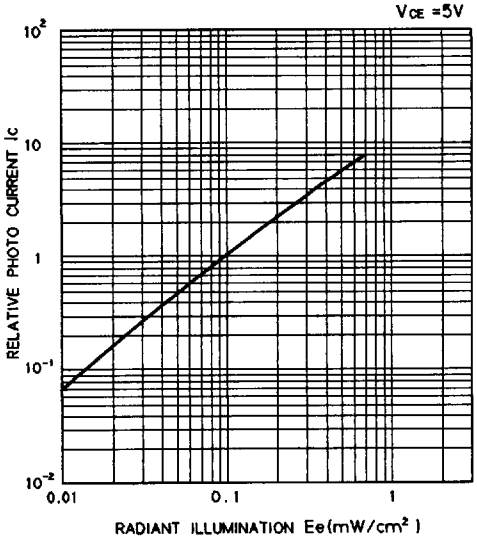


PHOTO CURRENT vs. COLLECTOR EMITTER VOLTAGE

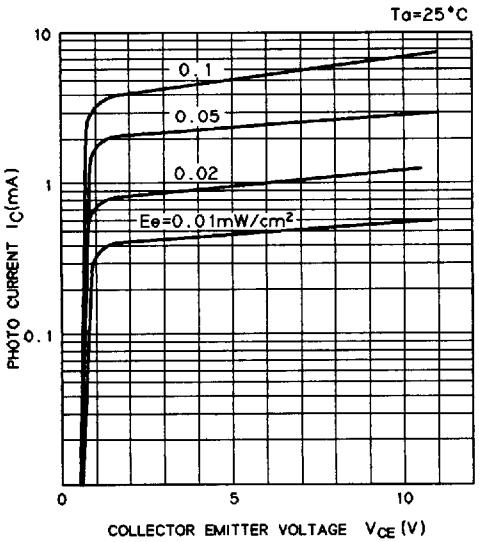
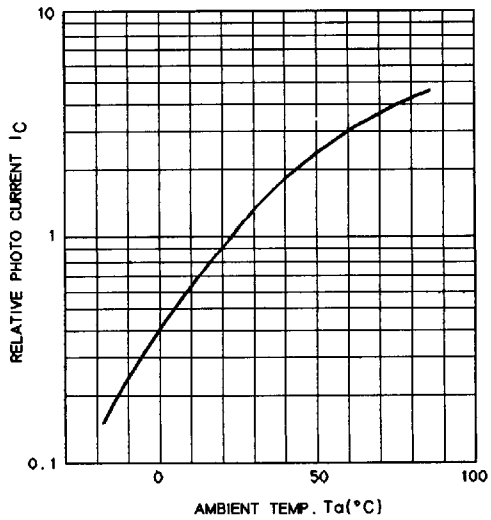
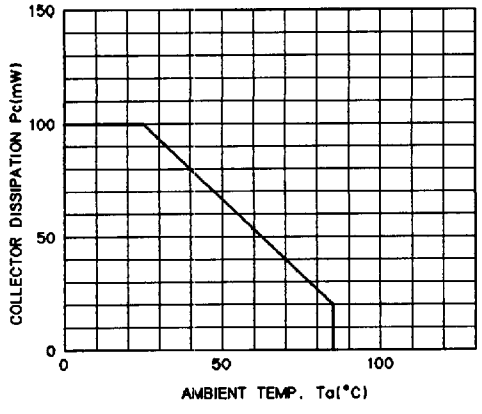


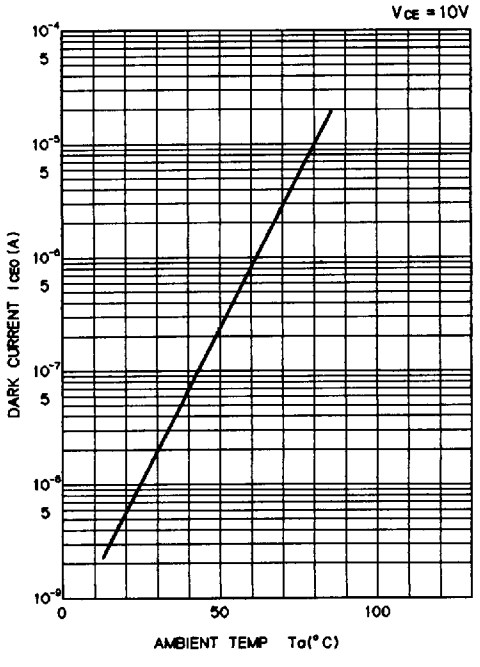
PHOTO CURRENT vs. AMBIENT TEMP.



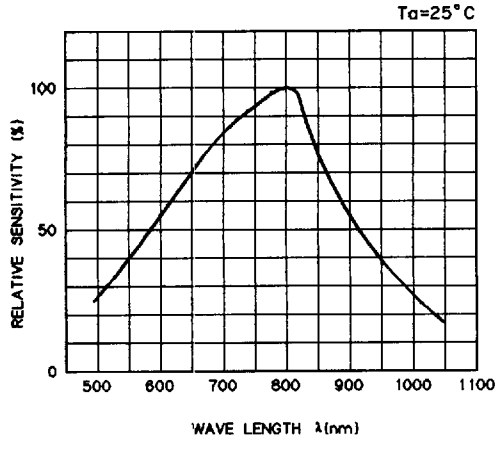
■COLLECTOR DISSIPATION vs. AMBIENT TEMP.



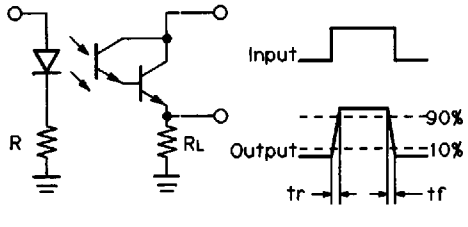
■DARK CURRENT vs. AMBIENT TEMP.



■SPECTRAL SENSITIVITY CHARACTERISTICS



■RESPONSE TIME MEASURING CIRCUIT



■RESPONSE TIME vs. LOAD RESISTANCE