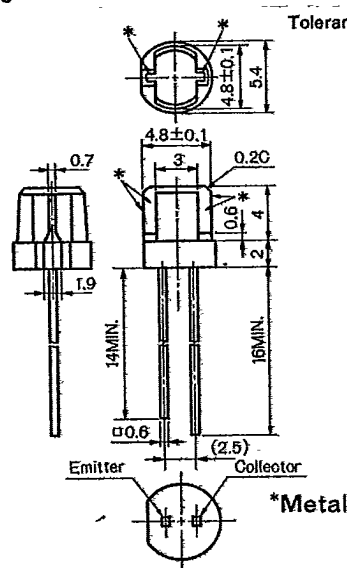


STANLEY

STANLEY PHOTO DARLINGTON TRANSISTOR

T-41-63

■ Package Dimensions — Unit : mm

Tolerance : ± 0.2

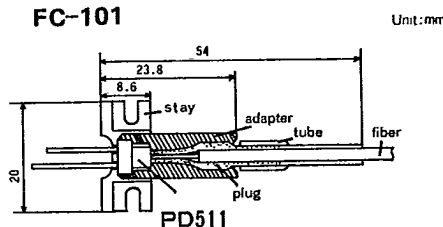
■ FEATURES

- (1) High accuracy by use of special resin package with centred chip
- (2) High photo current
(Typ. 5mA at $E_e = 0.1 \text{ mW/cm}^2$)
- (3) High current transmission ratio is achieved
- (4) Within $\pm 0.1 \text{ mm}$ accuracy for axis matching when exclusive-use connector FC-101 is used

■ APPLICATION

Best suited for detectors for optical fiber

FC-101



■ Absolute Maximum Ratings ($T_a = 25^\circ \text{C}$)

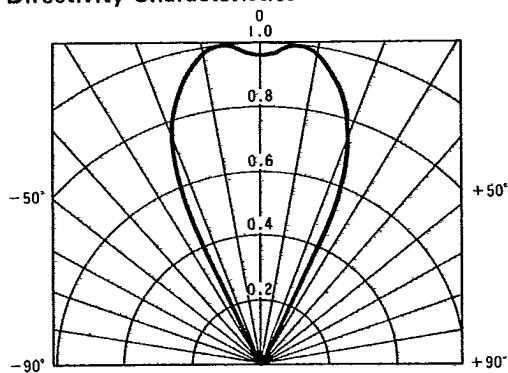
Item	Symbol	Maximum Ratings	Unit
Collector Dissipation	P_c	100	mW
Collector-Emitter Breakdown Voltage	V_{CEO}	20	V
Emitter-Collector Breakdown Voltage	V_{ECO}	5	V
Collector Current	I_c	30	mA
Operating Temperature	T_{opr}	$-30 \sim +85$	$^\circ \text{C}$
Storage Temperature	T_{stg}	$-30 \sim +100$	$^\circ \text{C}$

■ Electro-Optical Characteristics ($T_a = 25^\circ \text{C}$)

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

Item	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-Emitter Dark Current	I_{CEO}	—	—	1	μA	$V_{CE} = 10 \text{ V}, E_e = 0$
Photo current	I_c	1	5	—	mA	$V_{CE} = 5 \text{ V}, *E_e = 0.1 \text{ mW/cm}^2$
Response Time	Rise	t_r	400	—	μsec	$V_{CC} = 10 \text{ V}$ $I_c = 2 \text{ mA}, R_L = 100 \Omega$
	Fall	t_f	400	—	μsec	
Peak Sensitivity Wavelength	λ_p	—	800	—	nm	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	—	0.7	—	V	$I_c = 2 \text{ mA}, *E_e = 10 \text{ mW/cm}^2$

■ Directivity Characteristics

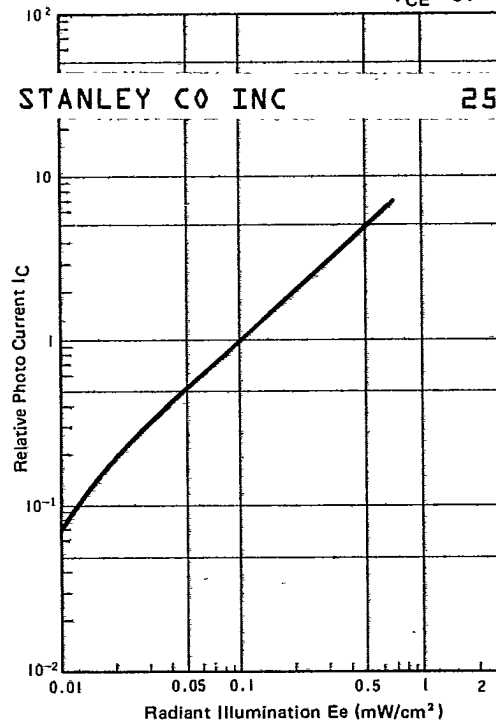


■ Relative Photo Current Vs. Radiant Illumination

$V_{CE} = 5V$

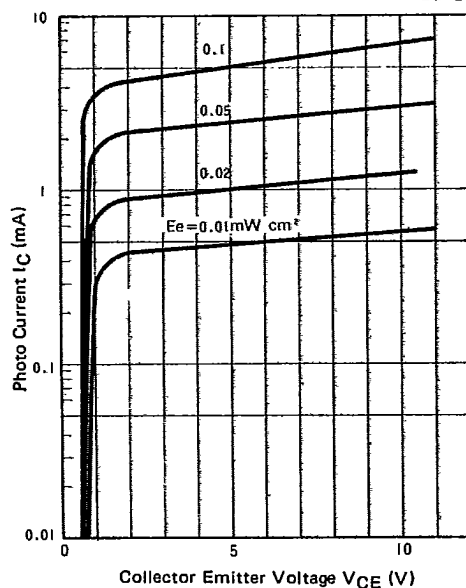
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■ Photo Current Vs. Collector Emitter Voltage

$T_a = 25^\circ\text{C}$



■ Photo Current Vs. Ambient Temp.

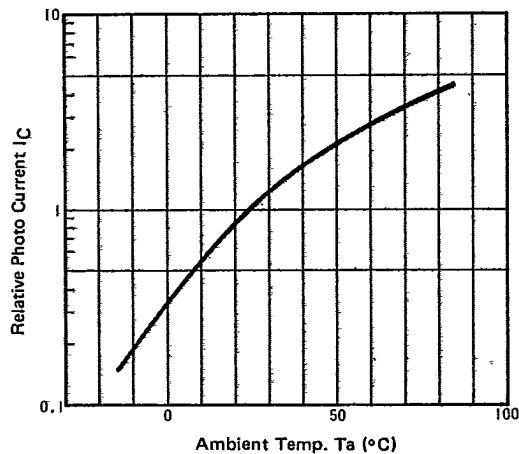
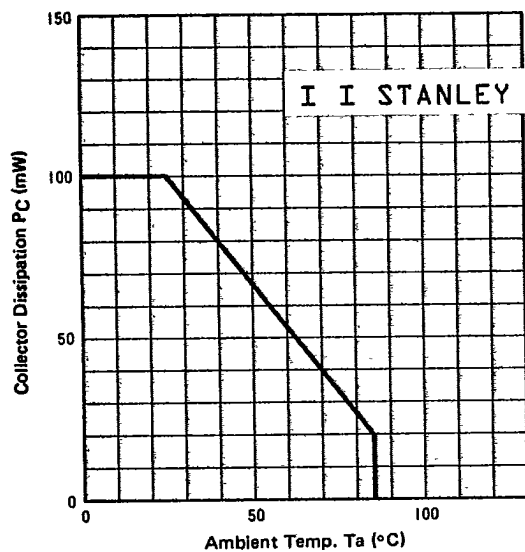
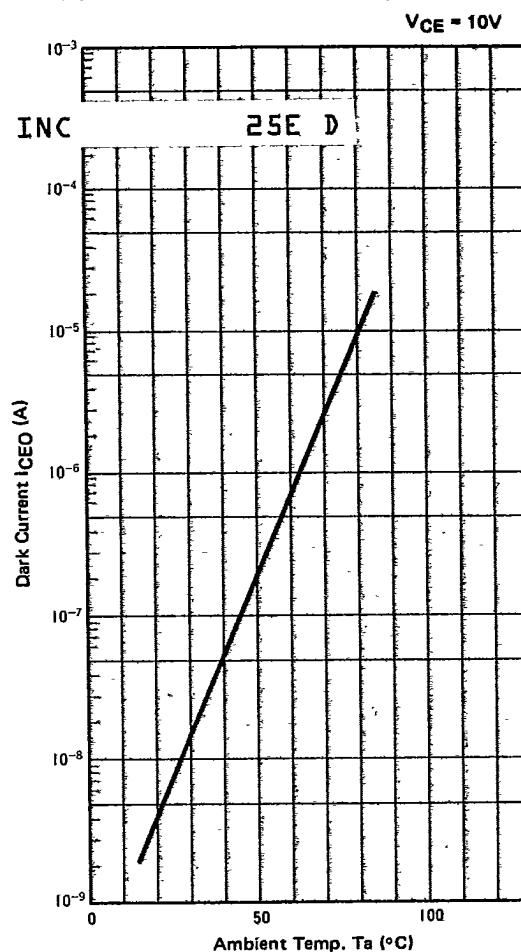


PHOTO
DARLINGTON
TRANSISTOR

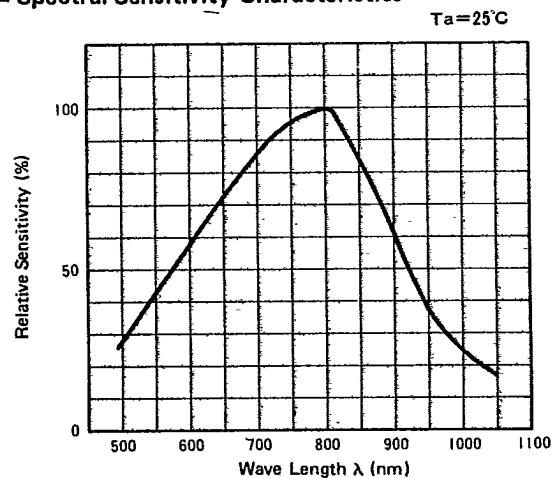
■ Collector Dissipation Vs. Ambient Temp.



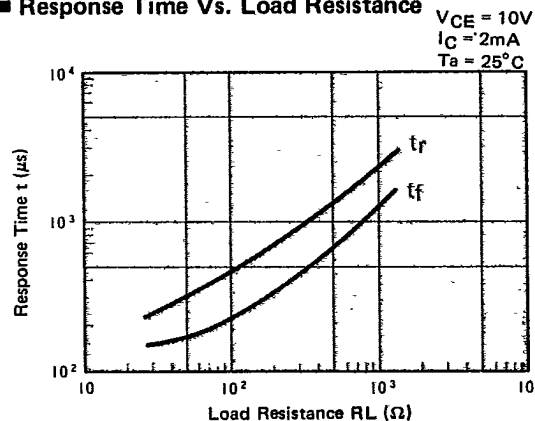
■ Dark Current Vs. Ambient Temp.



■ Spectral Sensitivity Characteristics



■ Response Time Vs. Load Resistance



■ Response Time Measuring Circuit

