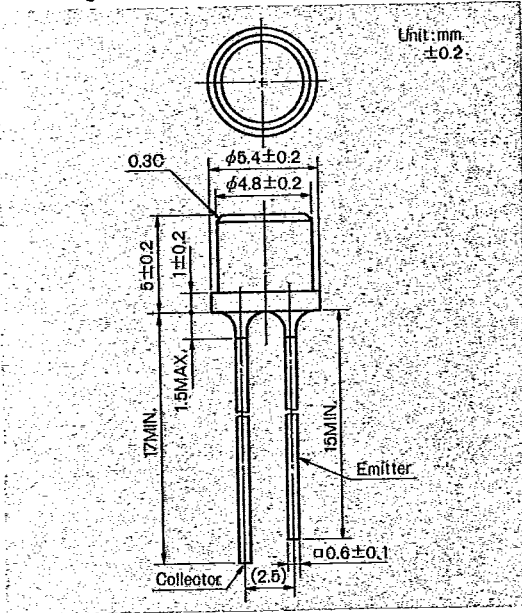




PD401
T-41-63

STANLEY PHOTO DARLINGTON TRANSISTOR

Package Dimensions



FEATURES

- (1) Wide range of spectral wavelength covering visible light (red) to infrared light
- (2) High directivity

APPLICATIONS

- (1) Detectors for optical fiber
- (2) Photoelectric switches
- (3) Selector machines
- (4) Infrared ray applied devices

Absolute Maximum Ratings (Ta = 25°C)

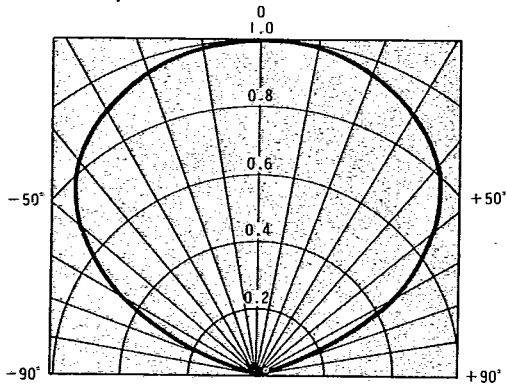
Item	Symbol	Maximum Ratings	Unit
Collector Dissipation	Pc	100	mW
Collector-Emitter Breakdown Voltage	V _{CEO}	20	V
Emitter-Collector Breakdown Voltage	V _{ECO}	5	V
Collector Current	I _c	30	mA
Operating Temperature	T _{opr}	-30 ~ +85	°C
Storage Temperature	T _{stg}	-30 ~ +100	°C

Electro-Optical Characteristics (Ta = 25°C)

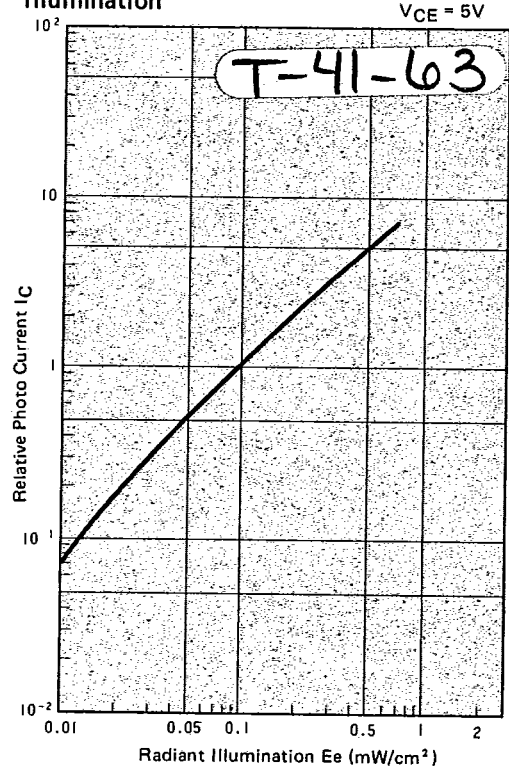
*At color temp. 2856°K standard tungsten filament bulb.

Item	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-Emitter Dark Current	I _{CEO}	—	—	1	μA	V _{CE} = 10 V, E _e = 0
Photo current	I _c	1	4	—	mA	V _{CE} = 5 V, *E _e = 0.1 mW/cm ²
Response Time	Rise	—	400	—	μ sec	V _{CC} = 10 V I _c = 2 mA, R _L = 100 Ω
	Fall	—	400	—	μ sec	
Peak Sensitivity Wavelength	λ _p	—	800	—	nm	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	—	0.7	—	V	I _c = 5 mA, *E _e = 10 mW/cm ²

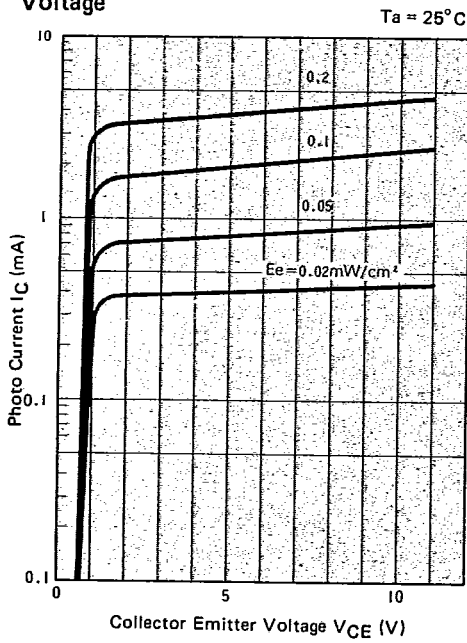
■ Directivity Characteristics



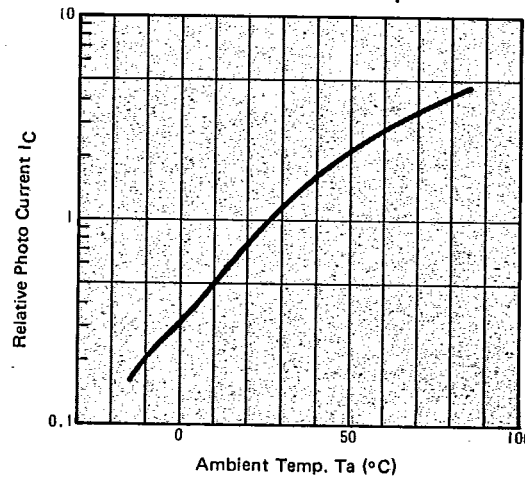
■ Relative Photo Current Vs. Radiant Illumination



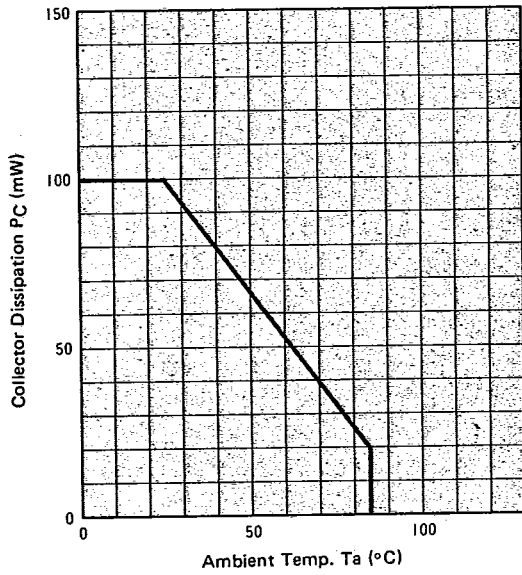
■ Photo Current Vs. Collector Emitter Voltage



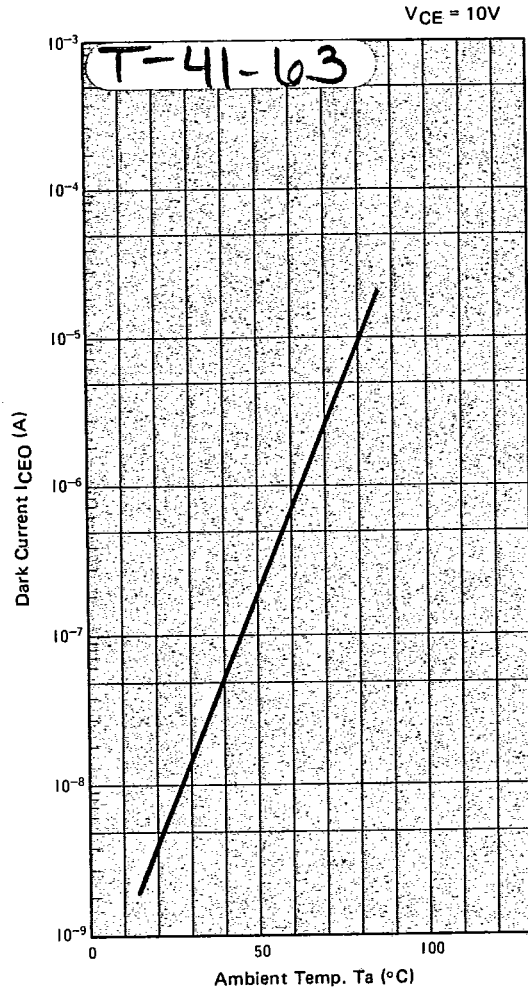
■ Photo Current Vs. Ambient Temp.



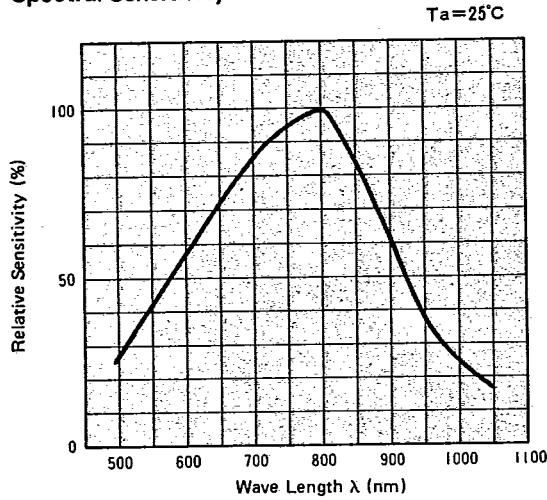
■ Collector Dissipation Vs. Ambient Temp.



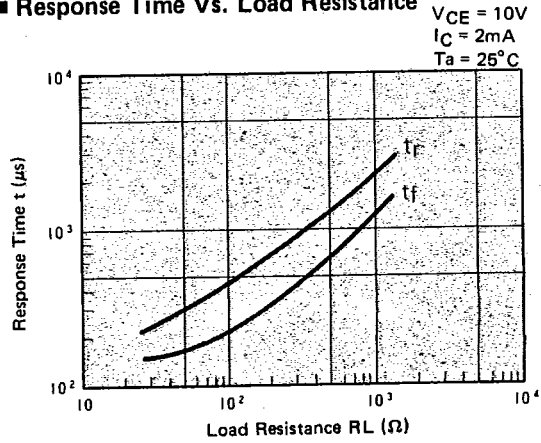
■ Dark Current Vs. Ambient Temp. $V_{CE} = 10V$



■ Spectral Sensitivity Characteristics $T_a = 25^\circ C$



■ Response Time Vs. Load Resistance $V_{CE} = 10V$
 $I_C = 2mA$
 $T_a = 25^\circ C$



■ Response Time Measuring Circuit

