

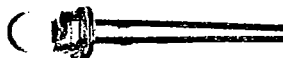


T41-63

OPTO TECHNOLOGY

NPN SILICON PHOTODARLINGTON

TYPE OT 413

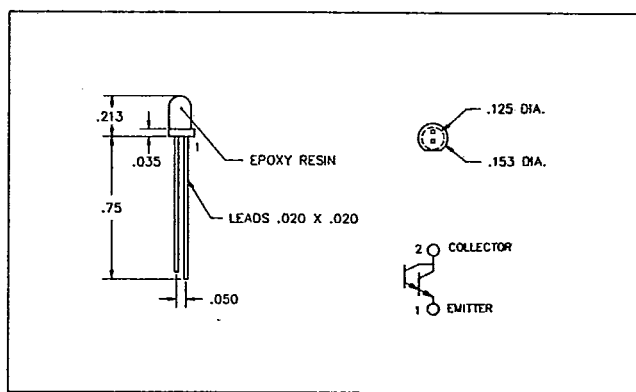


Features

- High gain
- Low cost, miniature T-1 package
- Mechanically matched to OT 303/OT 313 infrared emitters

Description

The OT 413 consists of an NPN silicon photodarlington mounted in a low cost T-1 plastic housing. Photodarlington devices are ideal in applications where light signal levels are low and more current gain is needed than is possible with phototransistors. The OT 413 is mechanically matched to the OT 303 and OT 313 emitters. Special screening of this device is available upon request.



Absolute Maximum Ratings (TA = 25°C unless otherwise specified)

Collector-Emitter Voltage	20 V
Emitter-Collector Voltage	5 V
Power Dissipation	100 mW ⁽¹⁾
Storage Temperature Range	-55°C to +100°C
Operating Temperature Range	-55°C to +100°C
Lead Soldering Temperature (for 5 sec. with soldering iron)	240°C ⁽²⁾

Notes:

- (1) Derate 1.33 mW/°C above 25°C.
- (2) RMA flux is recommended. Duration can be extended to 10 sec. max. when wave soldering.
- (3) Light source is unfiltered tungsten bulb operating at CT = 2870°K.

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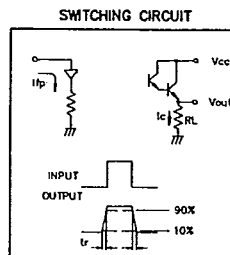
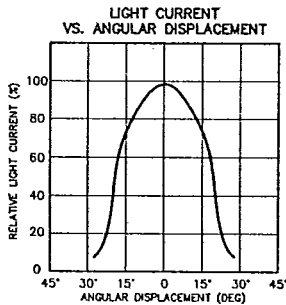
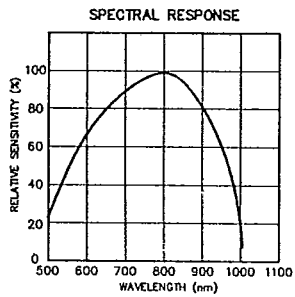
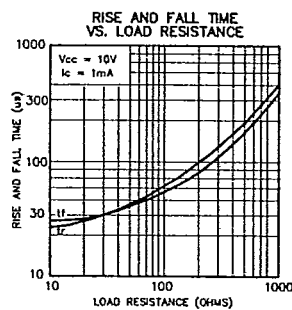
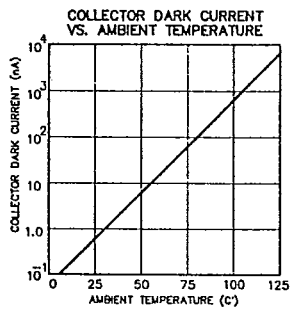
T-41-63

Electrical Characteristics: (25°C)

PHOTODARLINGTON	SYMBOL	MIN.	TYP.	MAX.	UNITS
Light Current ⁽³⁾ $V_{CE} = 5V, H = 5mW/cm^2$	$I_{C(ON)}$	5			mA
Dark Current $V_{CE} = 10V, H = 0$	I_{CEO}			1.0	μA
Collector-Emitter Voltage	V_{CEO}	20			V
Emitter-Collector Voltage	V_{ECO}	5			V
Saturation Voltage $I_C = 1mA$	$V_{CE(SAT)}$			1.0	V
Angular Response	ϕ		± 18		Deg.
Rise or Fall Time $R_L = 100 \Omega, V_{CC} = 10V$	t_r, t_f		150		μS

SENSORS

TYPICAL PERFORMANCE CURVES



Opto Technology reserves the right to make changes at any time to improve product design and reliability.