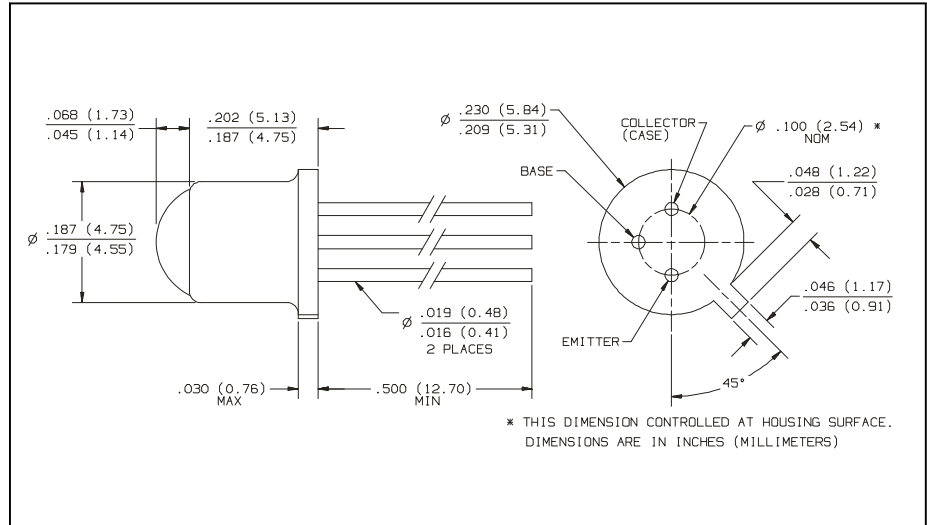


# Hi-Reliability NPN Silicon Phototransistor

## Types OP803TX/TXV, OP804TX/TXV, OP805TX/TXV



### Features

- High reliability screening patterned after MIL-PRF-19500
- Each lot subjected to Group A & B Lot Acceptance
- Lensed for high sensitivity
- Mechanically and spectrally matched to the OP235TX/TXV and OP236TX/TXV series IREDs

### Description

Each device in the OP803, OP804 and OP805TX/TXV series consists of a high reliability NPN phototransistor mounted in a lensed, hermetically sealed, TO-18 package. All devices are 100% screened per Table II of MIL-PRF-19500. Typical screening and lot acceptance tests are provided on page 13-4.

The OP803, OP804 and OP805 TX/TXV series lensing creates an acceptance half angle of  $12^{\circ \text{D}}$  measured from the optical axis to the half power point. The series can be matched with either a solid state infrared source, such as the OP235 and OP236 TX/TXV series IREDs, or can be used to sense infrared content in a visible light source, such as a tungsten bulb or sunlight for automatic brightness control.

### Absolute Maximum Ratings ( $T_A = 25^{\circ} \text{C}$ unless otherwise noted)

Storage Temperature Range	-65 <sup>o</sup> C to +150 <sup>o</sup> C
Operating Temperature Range	-55 <sup>o</sup> C to +125 <sup>o</sup> C
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron]	240 <sup>o</sup> C <sup>(1)</sup>
Collector-Emitter Voltage	30 V
Collector-Base Voltage	30 V
Emitter-Base Voltage	5.0 V
Emitter-Collector Voltage	5.0 V
Power Dissipation	250 mW <sup>(2)</sup>

#### Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 sec. max. when flow soldering.  
(2) Derate linearly 2.5 mW/<sup>o</sup> C above 25<sup>o</sup> C.

# Types OP803TX/TXV, OP804TX/TXV, OP805TX/TXV

Electrical Characteristics ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Symbol	Parameter	Min	Typ	Max	Units	Test Conditions
$I_{C(on)}$	On-State Collector Current					
	OP803TX, TXV	4.0		8.0	mA	$V_{CE} = 5.0\text{ V}, E_e = 5.0\text{ mW/cm}^{2(3)}$
	OP804TX, TXV	7.0		22.0	mA	$V_{CE} = 5.0\text{ V}, E_e = 5.0\text{ mW/cm}^{2(3)}$
	OP805TX, TXV	15.0			mA	$V_{CE} = 5.0\text{ V}, E_e = 5.0\text{ mW/cm}^{2(3)}$
$I_{CEO}$	Collector-Emitter Dark Current			100 100	nA $\mu\text{A}$	$V_{CE} = 10.0\text{ V}, E_e = 0$ $V_{CE} = 10.0\text{ V}, E_e = 0, T_A = 100^\circ\text{C}$
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	30			V	$I_C = 100\text{ }\mu\text{A}, I_E = 0, E_e = 0$
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30			V	$I_C = 100\text{ }\mu\text{A}, I_B = 0, E_e = 0$
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	5.0			V	$I_E = 100\text{ }\mu\text{A}, I_C = 0, E_e = 0$
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage			0.40	V	$I_C = 0.4\text{ mA}, E_e = 5.0\text{ mW/cm}^{2(3)}$
$t_r$	Rise Time OP804TX, TXV OP805TX, TXV			10.0 15.0	$\mu\text{s}$	$V_{CC} = 30\text{ V}, I_C = 1.00\text{ mA},$ $R_L = 100\text{ }\Omega$
				10.0 15.0		
$t_f$	Fall Time OP804TX, TXV OP805TX, TXV			10.0 15.0	$\mu\text{s}$	
				10.0 15.0		

(3) Light source is an unfiltered tungsten lamp operated at a temperature of 2870 K.

@TOPICS =

Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible  
 Optek Technology, Inc. 1215 W. Crosby Road Carrollton, Texas 75006 (972)323-2200 Fax (972)323-2396

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Phototransistors](#) category:*

*Click to view products by [TT Electronics](#) manufacturer:*

Other Similar products are found below :

[QSD123A4R0](#) [ASDL-6620-C22](#) [OED-ST-8LR2](#) [OED-STR44B90-TR](#) [IDCHIP001](#) [PT-A1-AC-3-PE-850](#) [PT-A1-AC-3528-850](#) [PT-A1-AC-5-HE-850](#) [PT-A1-DC-5-BN-940](#) [PT-A1-FC-5-BE-940](#) [PT-A2-AC-3-BE-850](#) [PT-A2-AC-5-BE-850](#) [PT-A2-AC-5-PE-850](#) [PT-A2-AC-5-PN-850](#) [PT-A2-DC-3-BE-940](#) [PT-A4-AC-5-PN-850](#) [PT-A6-AC-5-BN-520](#) [PT-A6-AC-5-PN-520](#) [PT-A8-AC-1206-850](#) [PT-B1-DC-0603-940](#) [PT-IC-AC-3-PE-550](#) [PT-IC-AC-5-BN-520](#) [PT-IC-AC-5-PE-550](#) [PT-IC-AC-5-PN-520](#) [PT-IC-BC-3-PE-550](#) [PT-IC-BC-5-PE-550](#) [140814240010](#) [140814241110](#) [140814240110](#) [140814241010](#) [140817141010](#) [140817140410](#) [140817140010](#) [140817141410](#) [140817140110](#) [140817140210](#) [140817140310](#) [140817141210](#) [140817141110](#) [140817141310](#) [140356145200](#) [140356145300](#) [140814242100](#) [140814242000](#) [140814243000](#) [140354245000](#) [140356145400](#) [140356145000](#) [140814243100](#) [140354245100](#)