



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

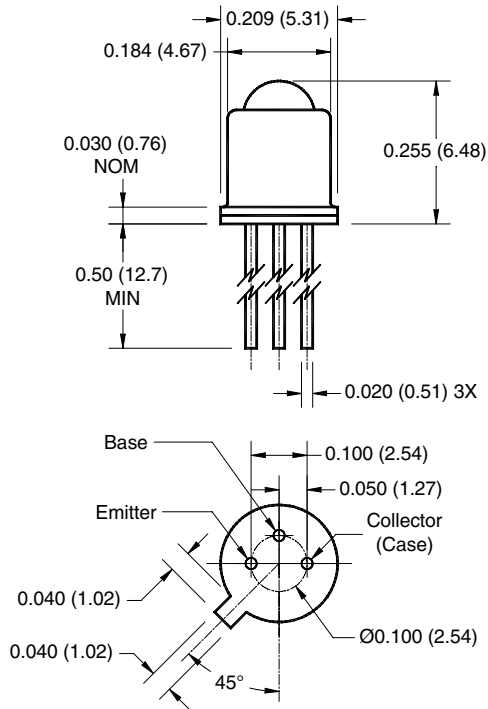
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PACKAGE DIMENSIONS

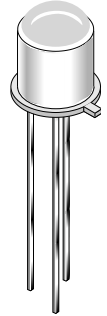


NOTES:

1. Dimensions for all drawings are in inches (mm).
2. Tolerance of $\pm .010$ (.25) on all non-nominal dimensions unless otherwise specified.

FEATURES

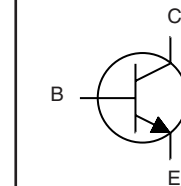
- Hermetically sealed package
- Narrow reception angle
- European "Pro Electron" registered



DESCRIPTION

- The BPW36/37 are silicon phototransistors mounted in narrow angle TO-18 packages.

SCHEMATIC



1. Derate power dissipation linearly 3.00 mW/°C above 25°C ambient.
2. Derate power dissipation linearly 6.00 mW/°C above 25°C case.
3. RMA flux is recommended.
4. Methanol or isopropyl alcohols are recommended as cleaning agents.
5. Soldering iron tip 1/16" (1.6mm) minimum from housing.
6. As long as leads are not under any stress or spring tension.
7. Light source is a GaAs LED emitting light at a peak wavelength of 940 nm.

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	T_{OPR}	-65 to +125	°C
Storage Temperature	T_{STG}	-65 to +150	°C
Soldering Temperature (Iron) ^(3,4,5 and 6)	T_{SOL-I}	240 for 5 sec	°C
Soldering Temperature (Flow) ^(3,4 and 6)	T_{SOL-F}	260 for 10 sec	°C
Collector-Emitter Voltage	V_{CEO}	45	V
Collector-Base Voltage	V_{CBO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Power Dissipation ($T_A = 25^\circ\text{C}$) ⁽¹⁾	P_D	300	mW
Power Dissipation ($T_C = 25^\circ\text{C}$) ⁽²⁾	P_D	600	mW

ELECTRICAL / OPTICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$) (All measurements made under pulse conditions)						
PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Collector-Emitter Breakdown	$I_C = 10 \text{ mA}, E_e = 0$	BV_{CEO}	45	—	—	V
Emitter-Base Breakdown	$I_E = 100 \mu\text{A}, E_e = 0$	BV_{EBO}	5.0	—	—	V
Collector-Base Breakdown	$I_C = 100 \mu\text{A}, E_e = 0$	BV_{CBO}	45	—	—	V
Collector-Emitter Leakage	$V_{CE} = 10 \text{ V}, E_e = 0$	I_{CEO}	—	—	100	nA
Reception Angle at 1/2 Sensitivity		Θ	—	± 10	—	Deg.
On-State Collector Current BPW36	$E_e = 0.5 \text{ mW/cm}^2$ $V_{CE} = 5 \text{ V}^{(7)}$	$I_{C(ON)}$	1.0	—	—	mA
On-State Collector Current BPW37	$E_e = 0.5 \text{ mW/cm}^2$ $V_{CE} = 5 \text{ V}^{(7)}$	$I_{C(ON)}$	0.5	—	—	mA
Turn-On Time	$I_C = 2 \text{ mA}, V_{CC} = 10 \text{ V}$ $R_L = 100 \Omega$	t_{on}	—	8	—	μs
Turn-Off Time	$I_C = 2 \text{ mA}, V_{CC} = 10 \text{ V}$ $R_L = 100 \Omega$	t_{off}	—	7	—	μs
Saturation Voltage	$I_C = 1.0 \text{ mA}, E_e = 3.0 \text{ mW/cm}^2$	$V_{CE(SAT)}$	—	—	0.40	V

TYPICAL PERFORMANCE CURVES

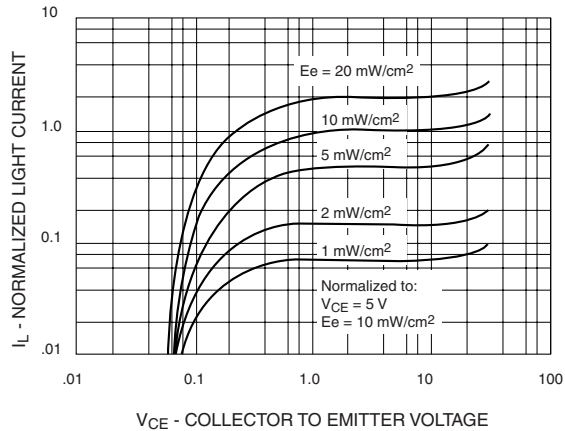


Fig. 1 Light Current vs. Collector to Emitter Voltage

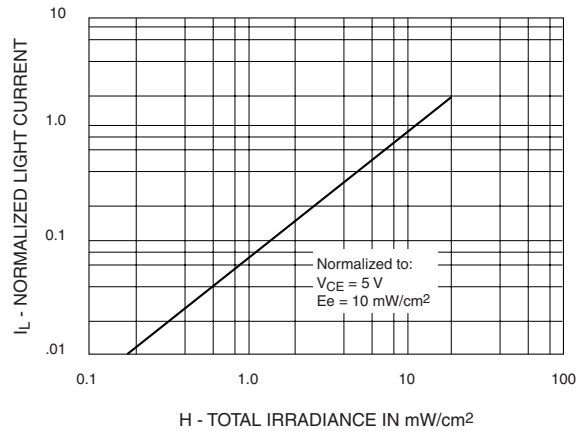


Fig. 2 Normalized Light Current vs. Radiation

TYPICAL PERFORMANCE CURVES

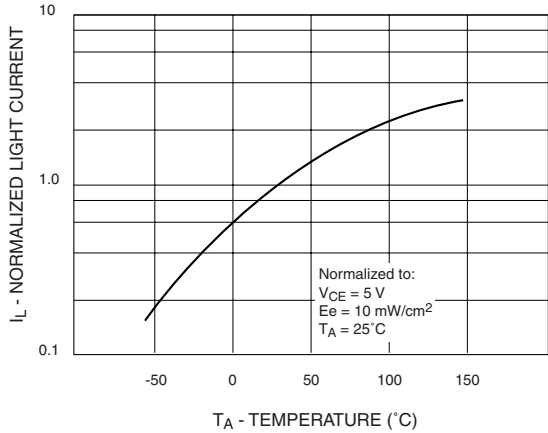


Fig. 3 Normalized Light Current vs. Temperature

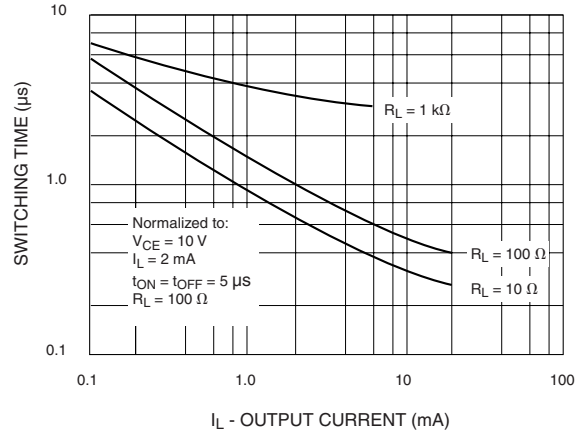


Fig. 4 Switching Times vs. Output Current

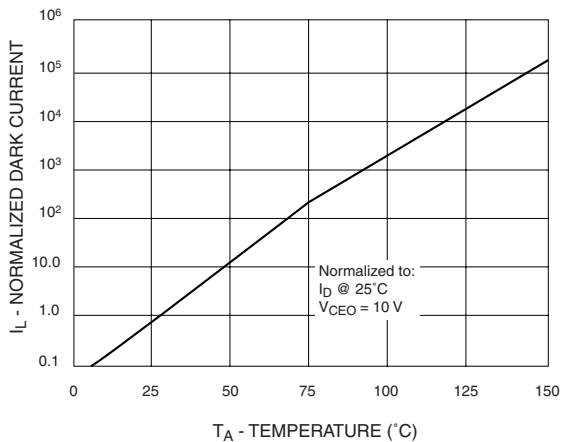


Fig. 5 Dark Current vs. Temperature

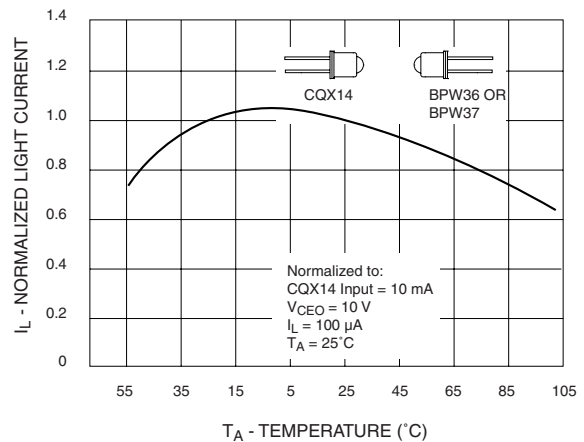


Fig. 6 Normalized Light Current vs. Temperature Both Emitter (CQX14) and Detector (BPW36 or BPW37) at Same Temperature

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