BP2802EB

High Isolation Voltage DC Input Response Type SSOP Photo Coupler

RoHS COMPLIANT Pb-free

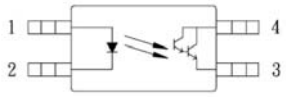
- **Features:**

1. High current transfer ratio (CTR=2000%TYP.@ IF=1 mA, VCE=2V).
2. Small and thin package(4pin SOP, Pin pitch 1.27mm).
3. High isolation voltage between input and output (Viso：3750Vrms).

- **Application：**

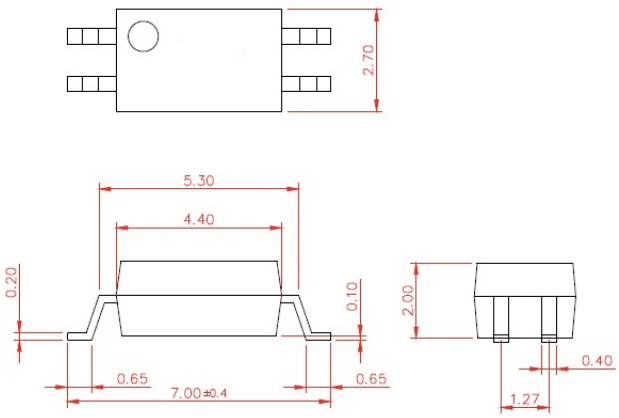
1. Hybrid substrates that require high density mounting.
2. Programmable logic controllers.
3. Communications,Telephone,etc.
3. Measuring instruments.

- **Internal Connection Diagram：**
  Top View



1. Anode
2. Cathode
3. Emitter
4. Collector

- **Outline Dimensions：** **(Unit : mm)**
  □BP2802EB

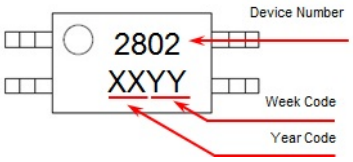


- Classification table of current transfer ratio is shown below.

Ta=25℃

Model No.	CTR Rank	CTR (%)
BP2802EB	E Rank	200~9000

Notes:



TOLERANCE：±0.2mm

● Absolute Maximum Ratings

Ta=25℃

Parameter		Symbol	Rating	Unit
Input	Forward current	IF	50	mA
	Peak forward current(*1)	IFP	1	A
	Reverse voltage	VR	6	V
	Power dissipation	PD	60	mW
	Power dissipation derating	PD/℃	0.6	mW/℃
Output	Collector-emitter voltage	VCEO	40	V
	Emitter-collect r voltage	VECO	6	V
	Collector current	IC	90	mA
	Collector power dissipation	PC	120	mW
	Collector power dissipation derating	PC/℃	1.2	mW/℃
Isolation voltage 1 minute(*2)		Viso	3750	Vrms
Operating temperature		Topr	-30 to +115	℃
Storage temperature		Tstg	-55 to +150	℃
Sold ring temperature 10 second		Tsol	260	℃

***1 PW=100μs,Duty Cycle=1%.**

***2 AC voltage for 1minute at T =25℃,RH=60% between input and output.**

● Electro-optical Characteristics

Ta=25℃

Parameter		Symbol	Cond tions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	VF	IF=5mA	–	1.1	1.4	V
	Peak forward voltage	VFP	IFP=0.5A	–	–	3.0	V
	Revers current	IR	VR=5V	–	–	5	μA
	Terminal c pacitance	Ct	V=0, f=1MHZ	–	30	-	pF
Output	Collector dark current	ICEO	VCE=40V,IF=0mA	–	–	0.4	μA
Transfer charac-teristics	Current transfer ratio	CTR	IF=1mA,VCE=2V	200	–	9000	%
	Collector-emitter saturation voltage	VCE(sat)	IF=10mA,Ic=2mA	–	-	1.0	V
	Isolat on resistance	Riso	DC500V	$5x10^{10}$	10^{11}	–	Ω
	Floating capacitance	Cf	V=0, f=1MHZ	–	0.4	-	pF
	Response time (Rise)(*3)	tr	Vce=5V,Ic=2mA,RL=100Ω	–	200	-	μs
	Response time (Fall)(*3)	tf	Vce=5V,Ic=2mA,RL=100Ω	–	200	-	μs

***3 Test circuit for switching time**

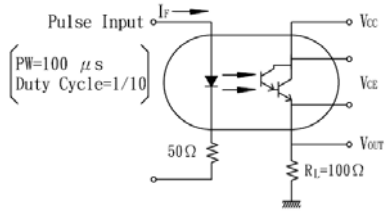


Fig.1 Current Transfer Ratio vs. Forward Current

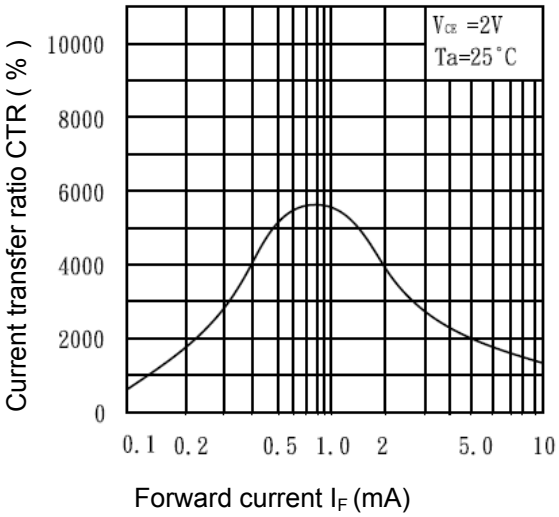


Fig.2 Forward Current vs. Ambient Temperature

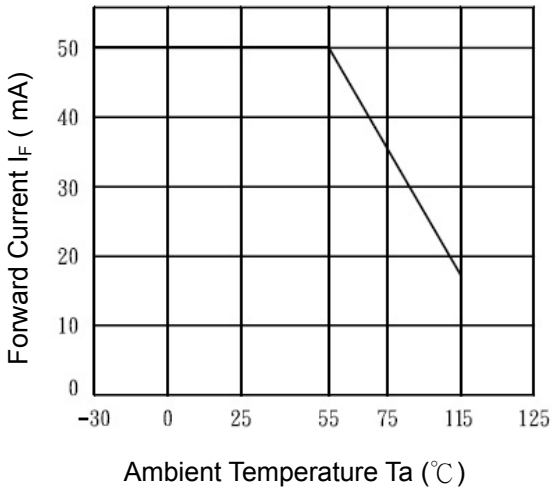


Fig.3 Collector Power Dissipation vs. Ambient Temperature

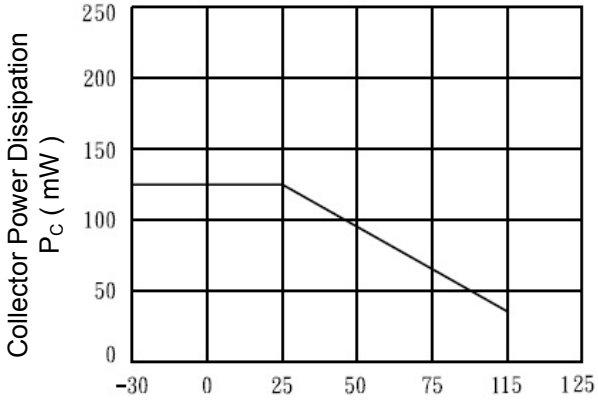


Fig.4 Forward Current vs. Forward Voltage

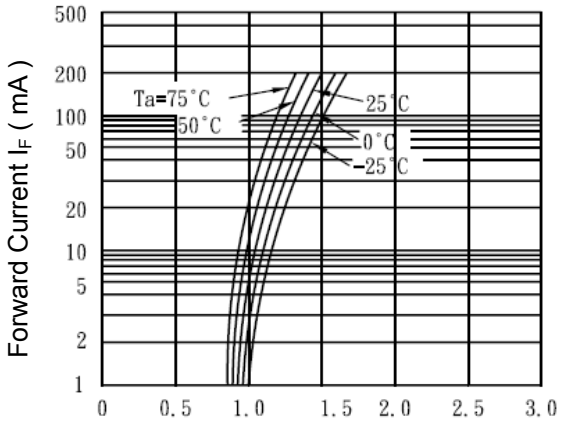


Fig.5 Collector Current vs. Collector-Emitter Voltage

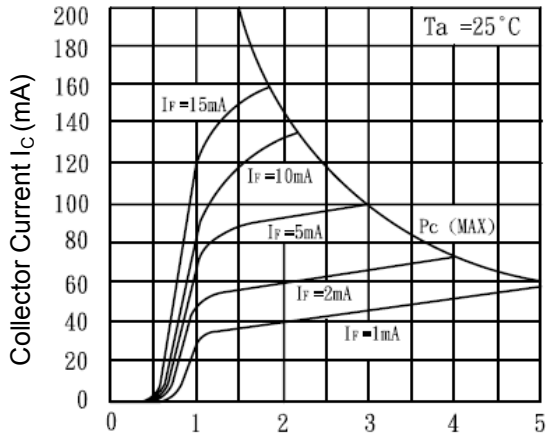


Fig.6 Peak Forward Current vs. Duty Ratio

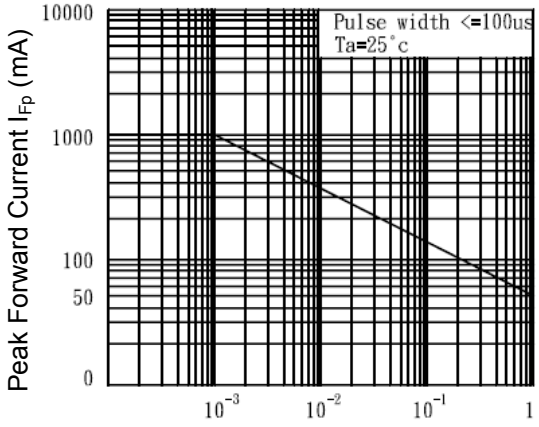


Fig.7 Collector-Emitter Saturation Voltage vs. Ambient Temperature

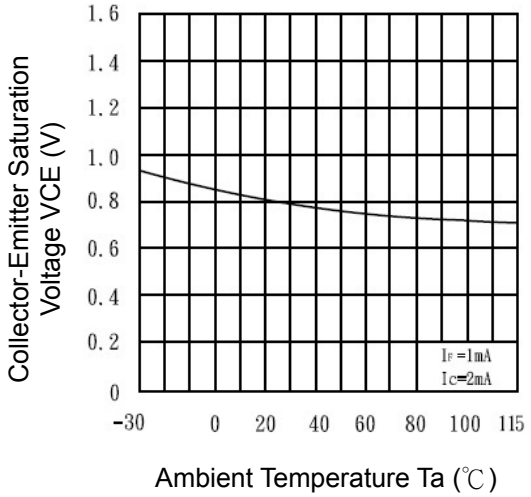


Fig.8 Collector Dark Current vs. Ambient Temperature

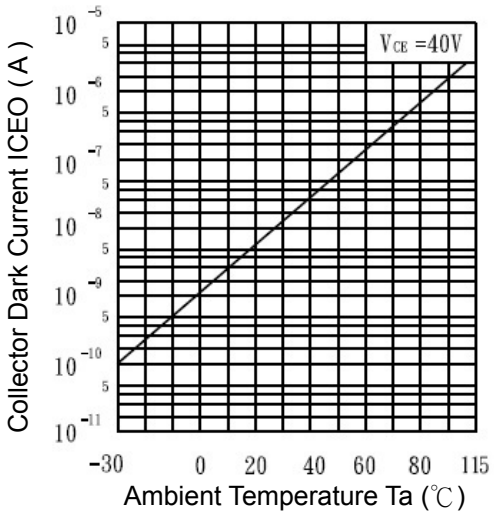


Fig.9 Response Time vs. Load Resistance

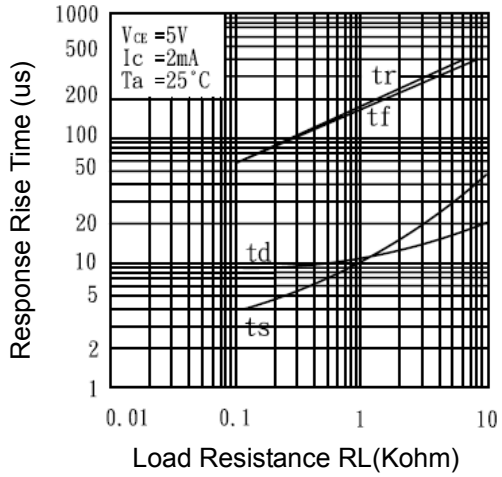


Fig.10 Collector-Emitter Saturation Voltage vs. Forward Current

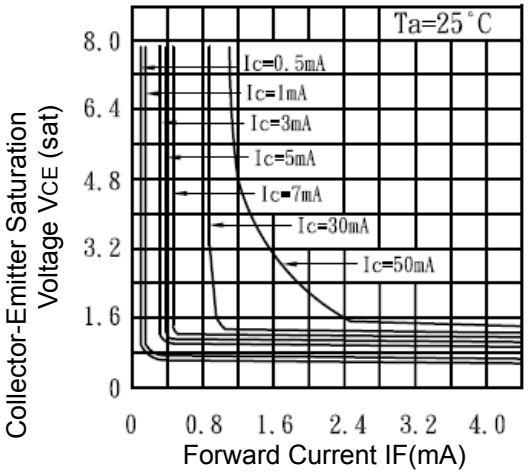
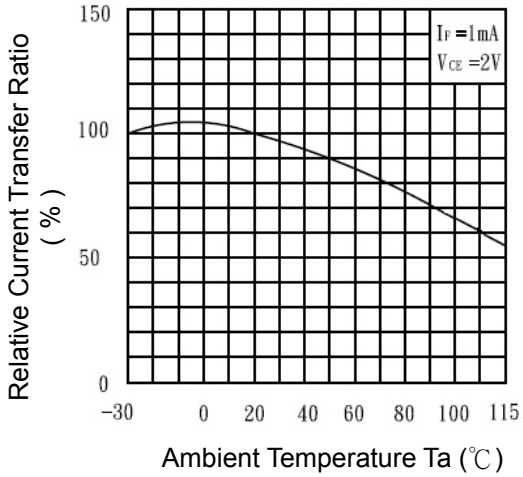


Fig.11 Relative Current Transfer Ratio vs. Ambient Temperature



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