BRIGHT LED ELECTRONICS CORP.

SILICON PHOTO TRANSISTORS SPECIFICATION

●COMMODITY：T-1 Standard 1.0"Lead, 3 ϕ

●DEVICE NUMBER：BPT-BP2931 VERSION： 1.0

●LENS APPEARANCE：Black

●APPLICATIONS

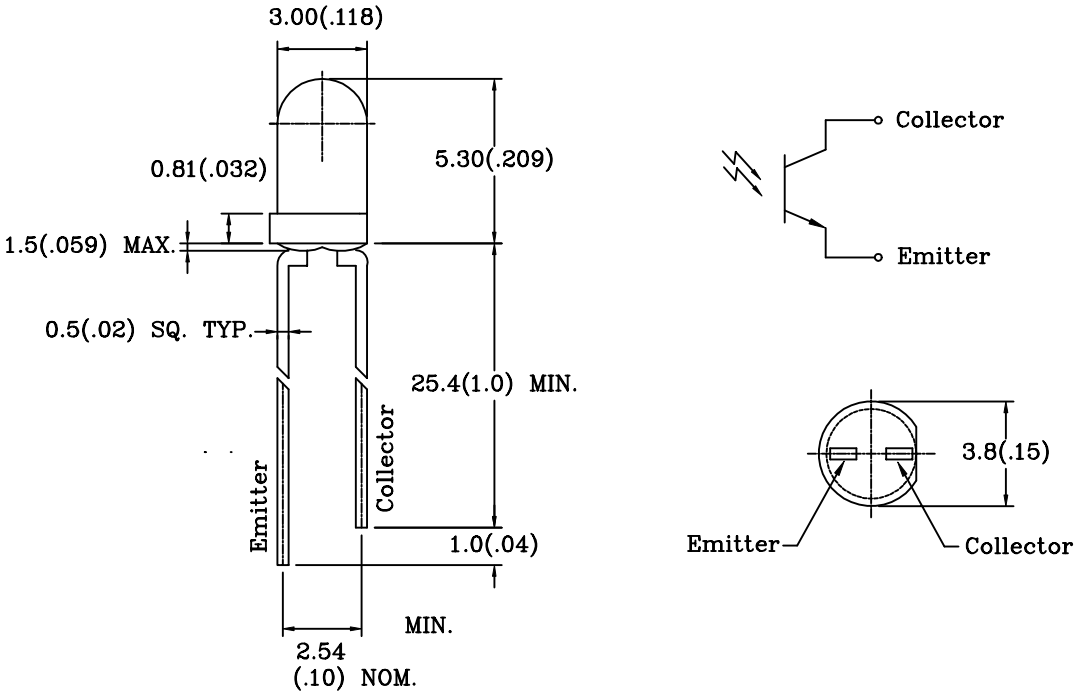
•Remote Control •Smoke Detector •Automatic Control System •PC Mouse •Optical Encoder

●ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

•Collector-to-Emitter Saturation Voltage Vce (SAT) (Max.) 0.5V
•Emitter-to-Collector Breakdown Voltage (VBR) (Min.) 5V
•Operating Temperature Range ..... -45℃ ~ +85℃
•Storage Temperature Range ..... -45℃ ~+100℃
•Lead Solding Temperature (1/16 inch from case) ..... 5sec 250℃
•Relative Humidity at 85℃ 85%
•Power Disspation 100mW
•Rise Time/Fall Time Tr/Tf (Vcc=30V、Ic=800uA、rl=1kΩ) 10/15uS

●ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta=25℃)

Absolute Maximum Rating			Collector Light Current (IC(ON))				Collector Dark Current (ICEO)		Viewing Angle 2θ 1/2 (deg)	Peak Wave Length λ P (nm)
Vceo (V)	Pd (mW)	Topr (℃)	Min. (mA)	Typ. (mA)	Vce (V)	H (mW/cm²)	Max (nA)	Vce (V)		
30	100	-45℃ ~+100℃	1.5	4.0	5.0	1.0	100	10	30	940



NOTES: 1.All dimensions are in millimeters (inches).
2.Tolerance is ± 0.5mm unless otherwise specified.
3.Lead spacing is measured where the leads emerge from the package.
4.Specifications are subject to change without notice.

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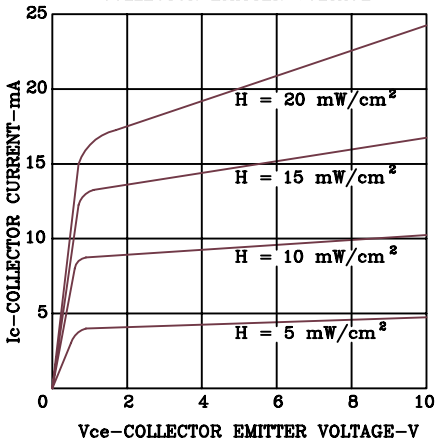
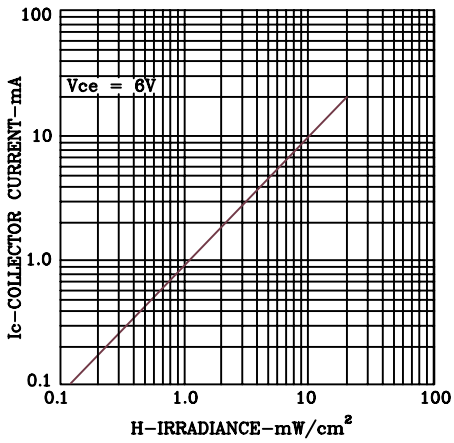
TYPICAL CHARACTERISTICS

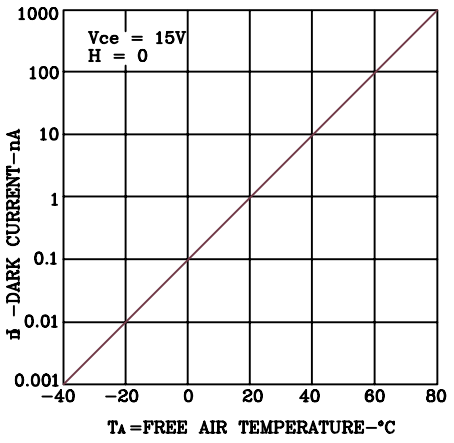
COLLECTOR CURRENT VS
COLLECTOR EMITTER VOLTAGE



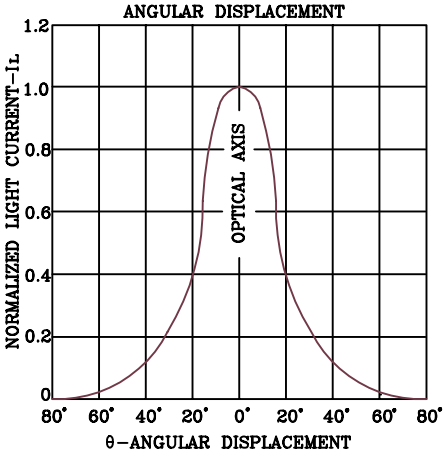
COLLECTOR CURRENT VS IRRADIANCE



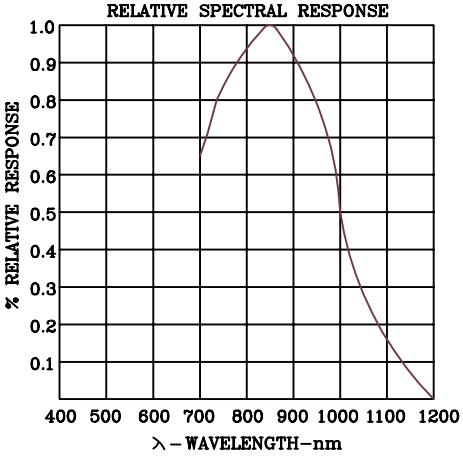
DARK CURRENT VS FREE-AIR TEMPERATURE



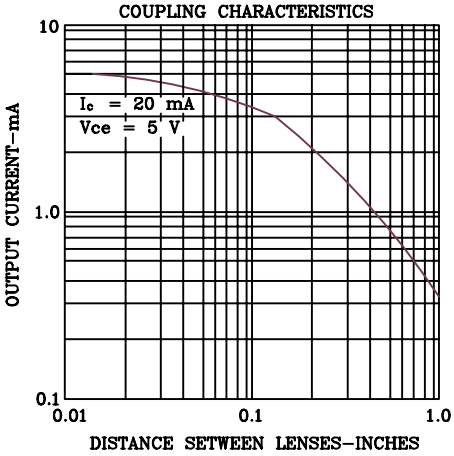
NORMALIZED LIGHT CURRENT VS
ANGULAR DISPLACEMENT



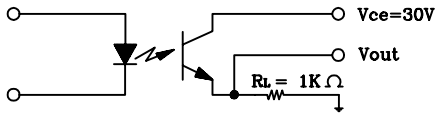
RELATIVE SPECTRAL RESPONSE



COUPLING CHARACTERISTICS



SWITCHING TIME TEST CIRCUIT



NOTE 1: INPUT IRRADIANCE IS SUPPLIED BY A PULSED GALLIUM ARSENIDE TIGHT EMITTING DIODE WITH A RISE TIME OF LESS THAN 500ns. INCIDENT IRRADIATION IS ADJUSTED FOR SPECIFIED IL.

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RELIABILITY TEST

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	High Temperature High Humidity Storage	MIL-STD-202:103B JIS C 7021 :B-11	Ta=85℃±5℃ RH=90%-95% Test time=1,000hrs	0/100
	High Temperature Storage	MIL-STD-883:1008 JIS C 7021 :B-10	High Ta=85℃±5℃ Test time=1,000hrs	0/100
	Low Temperature Storage	JIS-C-7021 :B-12	Low Ta=-35℃±5℃ Test time=1,000hrs	0/100
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS C 7021 :A-4	-35℃ ~25℃ ~85℃ ~25℃ 30min 5min 30min 5min Test Time=10cycle	0/100
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	85℃±5℃ ~-35℃±5℃ 10min 10min Test Time=10cycle	0/100
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS C 7021 :A-1	T.sol=260±5℃ Dwell Time=10±1sec.	0/50
	Solderability	MIL-STD-202:208D MIL-STD-750:2026 MIL-STD-883:2003 JIS C 7021 :A-2	T.sol=230±5℃ Dwell Time=5±1sec.	0/50
	Lead Bending Stress	MIL-STD-750:2036 JIS C 7021 :A-11	0°~90°~0°bend , 3 cycles Weight 250g	0/50

JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

Measuring items	Symbol	Measuring conditions	Judgement criteria for failure
Absolute Maximum Rating	Vceo		<30v
Coliector Light Curent	Ic (ON)	Vce=5v	>5mA

Note: 1.U means the upper limit of specified characteristics. S means initial value.
2.Measurment shall be taken between 2 hours and after the test pieces have been returned to normal ambient conditions after completion of each test.