

A series of spectral-response silicon photocells designed for unique product applications.

VIO-BLUE

Enhanced violet and blue response. Also can be used in U.V. detection because of high sensitivity to short wavelength radiation.

GREEN BLAZE

Photopic curve response for use in innumerable light response applications — with high reliability and low cost.

INFRA-R

Visible cut-off, high infrared response. Solves ambient light problems in IR activated photoelectric applications.

SPECTRA-BAND PHOTOCELLS

TOIs' special spectral response photocells are designed for the photographic industry, photometric instrumentation, and photoelectric control/switching applications.

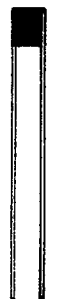
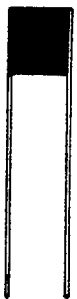
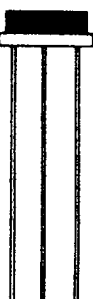
FEATURES

- Select spectral response
- No bias power source needed
- High temperature stability and high sensitivity through silicon construction
- Low noise
- High reliability
- A wide variety of sizes and packages, special geometries available

APPLICATIONS

- Photographic equipment
- Color, pattern recognition equipment
- Light discriminating systems

MECHANICAL SPECIFICATIONS

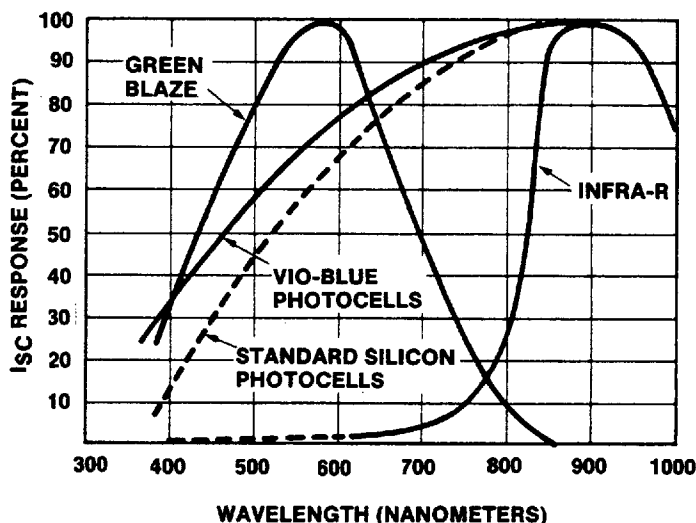
Spectra-Band Cell Configurations							
	Part Number	Part Number	Part Number	Part Number	Modified TO-206 AA (TO-18)	TO-205 AA (TO-5)	TO-233 AA (TO-8)
GREEN BLAZE	GB02505EPL	GB0505EPL	GB1010EPL	GB1020EPL	GBTO-18	GBTO-5	GBTO-8
INFRA-R	FR02505EPL	FR0505EPL	FR1010EPL	FR1020EPL	FRTO-18	FRTO-5	FRTO-8
VIO-BLUE	VB02505EPL	VB0505EPL	VB1010EPL	VB1020EPL	VBTO-18	VBTO-5	VBTO-8
Package	Coated Cell	Coated Cell	Coated Cell	Coated Cell	Modified TO-18	TO-5	TO-8
Lead Termination	6" Length Std.	6" Length Std.	6" Length Std.	6" Length Std.	Leads	Leads	Leads
Cell Dimensions	In.	0.1 x 0.2	0.2 x 0.2	0.4 x 0.4	0.055 x 0.055	0.1 x 0.2	0.28 x 0.28
	Cm.	0.25 x 0.5	0.5 x 0.5	1.0 x 1.0	0.14 x 0.14	0.25 x 0.5	0.72 x 0.72
Active Area (Sq. Cm.)	0.1	0.2	0.9	1.8	0.018	0.1	0.5

TYPICAL PERFORMANCE CHARACTERISTICS (Continued)

INFRA-R SERIES										
Parameter	Symbol	Unit	Test Condition	FR0250SEPL	FR0505EPL	FR1010EPL	FR1020EPL	FRT0-18	FRT0-5	FRT0-8
Short Circuit Current	I _{SC}	mA	100 mW/cm ² , AM1 Solar Radiation	1.3	2.6	11.5	23.0	0.3	1.3	6.4
Open Circuit Voltage	V _{OC}	Volts	100 mW/cm ² , AM1 Solar Radiation	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Forward Voltage	V _F	Volts	I _F = 1 mA	0.50	0.50	0.45	0.40	0.50	0.50	0.45
Dark Current	I _D	μA	V _R = 0.1 V	0.2	0.4	0.8	0.9	0.2	0.2	0.5
Capacitance	C _T	pF	V _R = 0 V	1.0	3.0	10.0	15.0	1.0	1.0	8.0
Responsivity	R _e	A/W	λ _p = 900 nm, V _R = 0	0.45	0.45	0.45	0.45	0.40	0.40	0.40

VIO-BLUE SERIES										
Parameter	Symbol	Unit	Test Condition	VB0250SEPL	VB0505EPL	VB1010EPL	VB1020EPL	VBTO-18	VBTO-5	VBTO-8
Short Circuit Current	I _{SC}	mA	100 mW/cm ² , AM1 Solar Radiation	2.3	4.7	21.0	42.0	0.5	2.3	11.6
Open Circuit Voltage	V _{OC}	Volts	100 mW/cm ² , AM1 Solar Radiation	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Forward Voltage	V _F	Volts	I _F = 1 mA	0.50	0.50	0.45	0.40	0.50	0.50	0.45
Dark Current	I _D	μA	V _R = 0.1 V	0.2	0.4	0.8	0.9	0.2	0.2	0.5
Capacitance	C _T	pF	V _R = 0 V	1.0	3.0	10.0	15.0	1.0	1.0	8.0
Responsivity	R _e	A/W	λ _p = 900 nm, V _R = 0	0.48	0.48	0.48	0.48	0.44	0.44	0.44

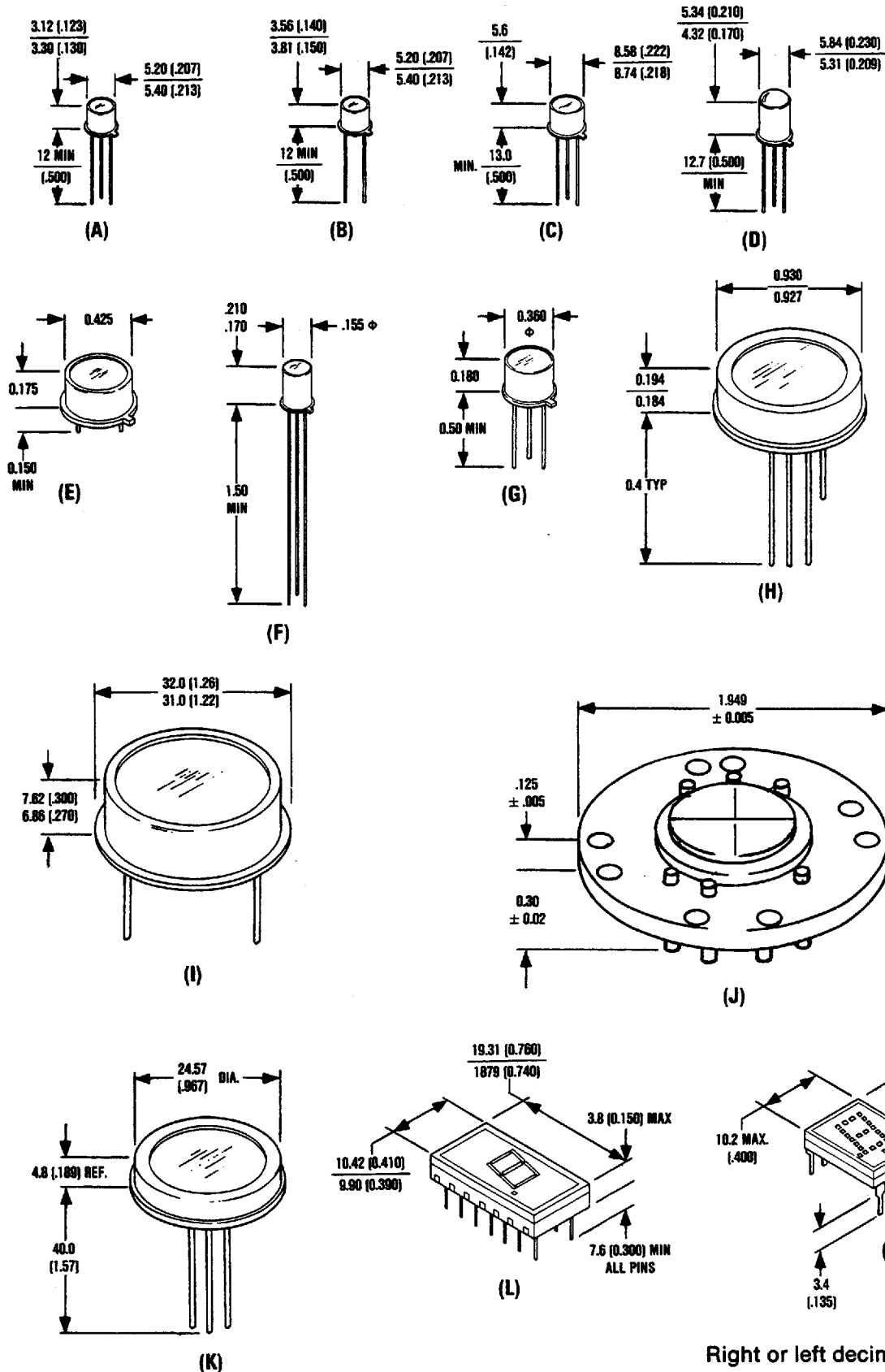
GREEN-BLAZE SERIES										
Parameter	Symbol	Unit	Test Condition	GB0250SEPL	GB0505EPL	GB1010EPL	GB1020EPL	GBTO-18	GBTO-5	GBTO-8
Short Circuit Current	I _{SC}	mA	100 mW/cm ² , AM1 Solar Radiation	0.27	0.55	2.5	5.0	0.06	0.27	1.38
Open Circuit Voltage	V _{OC}	Volts	100 mW/cm ² , AM1 Solar Radiation	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Forward Voltage	V _F	Volts	I _F = 1 mA	0.50	0.45	0.45	0.40	0.50	0.50	0.45
Dark Current	I _D	μA	V _R = 0.1 V	0.3	0.4	0.8	1.0	0.3	0.3	0.5
Capacitance	C _T	pF	V _R = 0 V	1.0	2.0	3.0	5.0	1.0	1.0	2.0
Responsivity	R _e	A/W	λ _p = 555 nm	0.20	0.20	0.20	0.20	0.19	0.19	0.19



**TYPICAL SPECTRAL RESPONSE CHARACTERISTICS
— NORMALIZED**

**TYPICAL SHORT CIRCUIT CURRENT (I_{SC})
RESPONSE**

- Standard Silicon Photovoltaic Cell (at 900 nm)
~ 0.48 A/W
- Vio-Blue (at 900 nm)
~ 0.48 A/W
- Green Blaze (at 555 nm)
~ 0.20 A/W
- Infra-R (at 900 nm)
~ 0.45 A/W

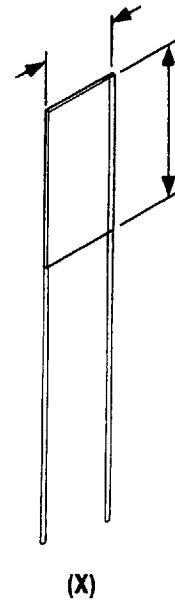
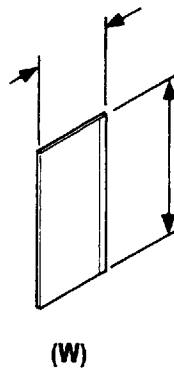
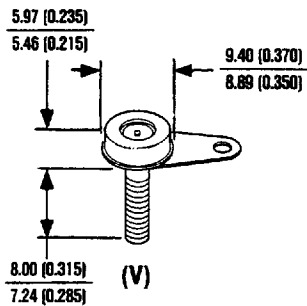
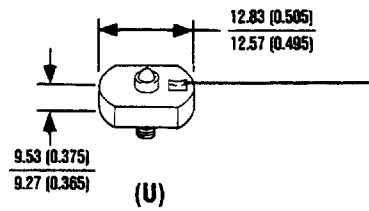
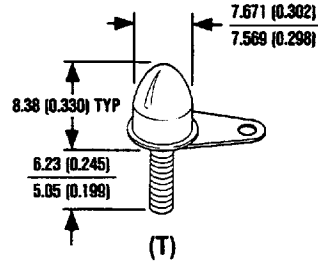
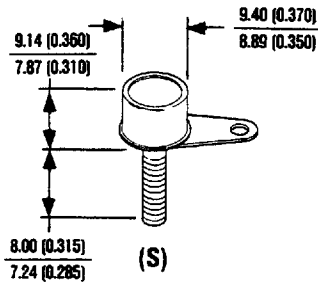
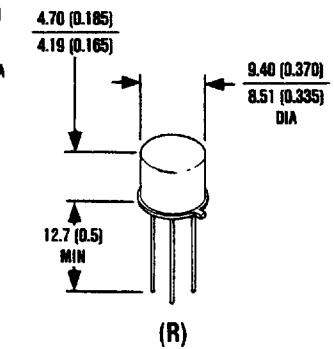
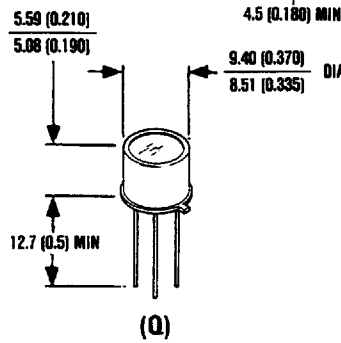
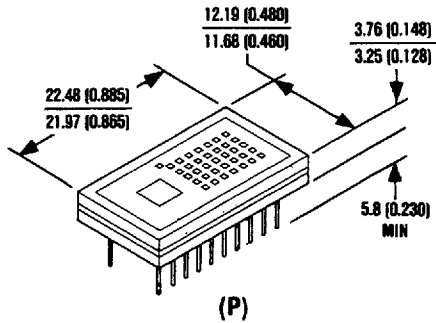
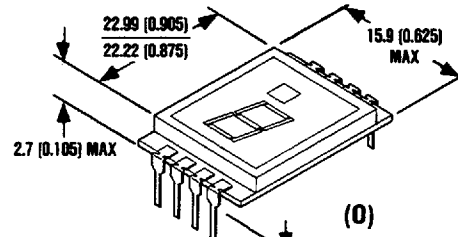
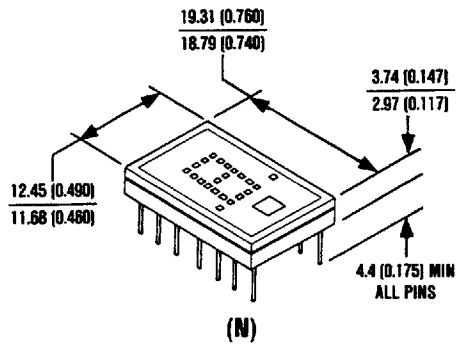


Right or left decimal optional



Texas Optoelectronics, Inc.

Package Configuration



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