

BPW SERIES

SILICON PIN PHOTO DIODES

A range of PIN photodiodes encapsulated in economical plastic packages which are clear or incorporate a daylight filter which provides sensitivity to infra-red radiation only, with high rejection of wavelengths less than 700nm. The devices have low junction capacitance and thus are capable of fast switching speeds.

SUITABLE APPLICATIONS

Filtered options — IR remote-control for television, hi-fi systems, slide projectors, model cars, trains, etc., garage door, domestic appliances, automobile security. Perfectly matched to GaAs IRED emission.

Clear options — General purpose light sensing, street lighting.

INFRA-RED PIN DIODE PHOTO DETECTORS

Device Type	Photo Sensitive Area mm ²	Package Ref.	CHARACTERISTICS at 25°C								
			∅	I _L and V _{OC} E ₀ = 1mW/cm ² λ = 950nm V _R = 5V		I _R at V _R E ₀ = 0		V _{BR} I _R = 100μA	λ _p /λ _{0.5} nm	C _j V _R = 3V f = 1MHz E ₀ = 0 pF	t _{on} /t _{off} V _R = 10V R _L = 1kΩ nS
				μA	mV	nA	V	V			
BPW41D	7.25	Fig. 6	± 65°	(> 25)45	350	2(< 30)	10	> 32	925/ 820 to 1040	25(< 40)	50
BPW41	7.25	Fig. 7	± 65°	(> 25)45	350	2(< 30)	10	> 32	925/ 820 to 1040	25(< 40)	50
BPW50	5.0	Fig. 7	± 65°	(> 20)32	350	2(< 20)	10	> 32	925/ 820 to 1040	20(< 30)	50

PIN DIODE PHOTO DETECTORS IN CLEAR PLASTIC PACKAGE

Device Type	Photo Sensitive Area mm ²	Package Ref.	CHARACTERISTICS at 25°C								
			∅	I _L and V _{OC} E _v = 1000 lux* V _R = 5V		I _R at V _R E _v = 0		V _{BR} I _R = 100μA	λ _p /λ _{0.5} nm	C _j V _R = 3V f = 1MHz E _v = 0 pF	t _{on} /t _{off} V _R = 10V R _L = 1kΩ nS
				μA	mV	nA	V	V			
BPW41C	7.25	Fig. 7	± 65°	(> 50)82	350	2(< 30)	10	> 32	850/ 600 to 1020	25(< 40)	50
BPW50C	5.0	Fig. 7	± 65°	(> 35)56	350	2(< 20)	10	> 32	850/ 600 to 1020	20(< 30)	50

*The illumination source is Standard Illuminant 'A' (an unfiltered tungsten filament lamp at 2856°K colour temperature).

SEMICONDUCTOR DICE

PHOTOTRANSISTORS/PHOTODARLINGTON

Dice type	Description	V_{CE0}	V_{CB0}	V_{EB0}	I_{CE0} at $V_{CE} = 10V$	I_p at $V_{CE} = 10V$	Spectral sensitivity range nm	Geometry
		V	V	V	μA	$\mu A/\ell ft^2$		
ZM100	Photodarlington	35	35	10	1.0	35-160	400-1100	G30
ZM110	Phototransistor	35	35	5	0.025	2-10	400-1100	G31
ZM210	Phototransistor	35	35	5	0.010	7-35	400-1100	G32

PIN PHOTODIODES

Dice type	Description	V_{BR}	I_R at $V_R = 10V$	I_p at $E_g = 1mW/cm^2$ $V_R = 5V \lambda = 950nm$	Spectral sensitivity range nm	Geometry
		V	nA	μA		
BPW41	7.25mm ² PIN Photodiode	32	2(<30)	(>25) 45	400-1100	G33
BPW50	5mm ² PIN Photodiode	32	2(<20)	(>20) 32	400-1100	G34
ZPA200	1mm ² PIN Photodiode	32	1(<10)	(>4) 7	400-1100	G35