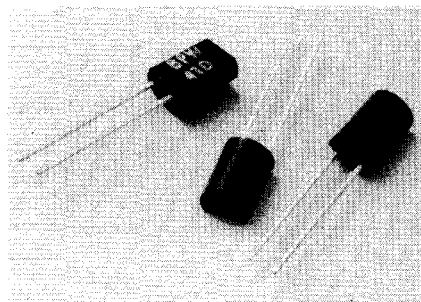


INFRA-RED PHOTODETECTOR

The BPW41D is a large area, silicon p.i.n. photodiode having a low junction capacitance and consequently capable of fast response times. The active chip is packaged in a plastic moulding which contains a near infra-red transmissive filter such that the device is sensitive to infra-red radiation only, and has a high rejection of wavelengths below 800 nm. The BPW41D is therefore eminently suitable for use in I.R. remote control links.

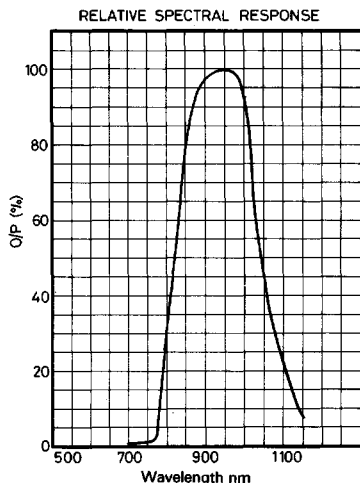
**I.R. REMOTE CONTROL APPLICATIONS ADVICE**

Advice is available on complete I.R. remote control systems for applications such as those listed below. The combination of I.R. emitting diode, photo-detector and detector electronics is critical in defining the performance of a remote control system, and advice is freely available as to the best system combination for a given application.

SUITABLE APPLICATIONS FOR I.R. REMOTE CONTROL

Television, Hi-Fi Systems, Slide Projectors, Model Cars, Trains, etc., Garage Doors, Domestic Appliances.

(See inside front cover for spectral response).

**RELATIVE SPECTRAL RESPONSE**

BPW41D

ABSOLUTE MAXIMUM RATINGS (at 25°C ambient temperature unless otherwise stated).

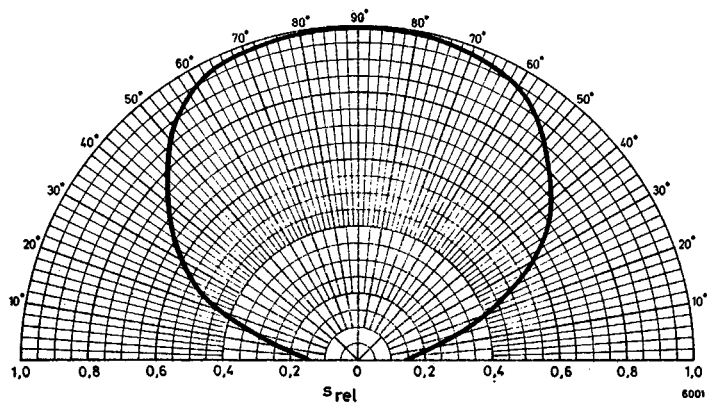
Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	32	Volts
Power Dissipation	P_{tot}	150	mW
Storage Temperature Range		-30 to +80	°C
Maximum Lead Soldering Temperature (≥2 mm from case for ≤3 seconds)		245	°C
Typical Wavelength of Peak Response		925	nm
Typical Range of Spectral Bandwidth (Between 50% levels)		820 to 1040	nm

CHARACTERISTICS (at 25°C ambient temperature).

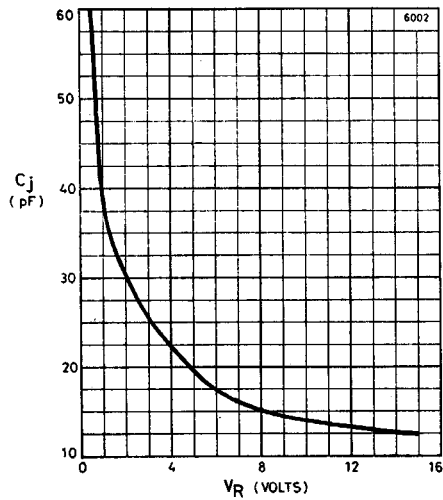
Photovoltaic Mode

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Open-circuit voltage	V_{oc}	—	400	—	mV	$E_v = 1000 \text{ lux}$ (See note 1)
Short-circuit current	I_{sc}	—	70	—	μA	$E_v = 1000 \text{ lux}$ $R_L = 100 \Omega$
		—	43	—	μA	$E_e = 1 \text{ mW/cm}^2$ $\lambda_p = 950 \text{ nm}$ $R_L = 100 \Omega$ (See note 2)
Absolute sensitivity	S	—	50	—	nA/lux	
Junction capacitance	C_j	—	75	—	pF	$V_R = 0, f = 1 \text{ MHz}$ $E = 0$

TYPICAL CHARACTERISTICS



POLAR RESPONSE



CAPACITANCE V_R REVERSE VOLTAGE