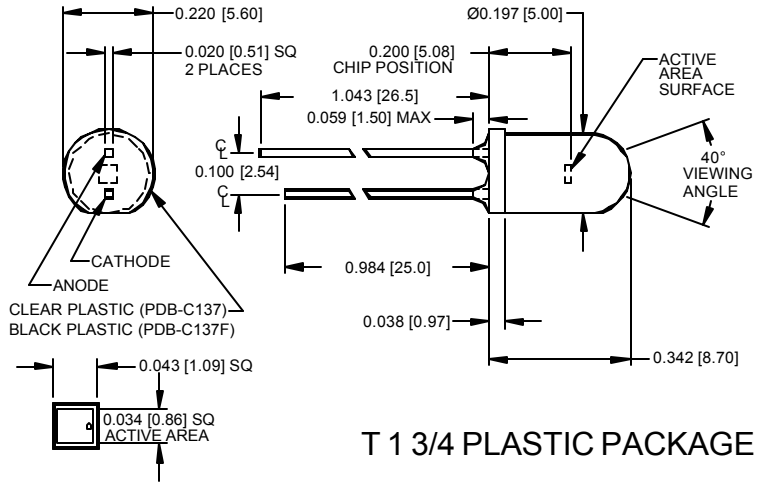
PHOTONIC DETECTORS INC.

Silicon Photodiode, Blue Enhanced Photoconductive
Type PDB-C137 , with daylight filter Type PDB-C137F

PACKAGE DIMENSIONS INCH [mm]



T 1 3/4 PLASTIC PACKAGE

ACTIVE AREA = 0.74 mm²

FEATURES

- Photoconductive
- High speed
- Low cost

DESCRIPTION: The **PDB-C137** detector is a 0.74 mm² planar pin photodiode packaged in a T 1 3/4, water clear plastic housing. Designed for high speed, low capacitance, photoconductive applications. The **PDB-C137F** includes a daylight filter.

APPLICATIONS

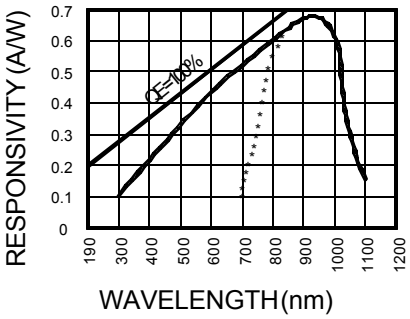
- Smoke detectors
- Light dimmers
- TV & VCR remotes
- I.R. receivers

ABSOLUTE MAXIMUM RATING (TA=25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS
V_{BR}	Reverse Voltage		50	V
T_{STG}	Storage Temperature	-40	+100	°C
T_O	Operating Temperature Range	-40	+80	°C
T_S	Soldering Temperature*		+260	°C
I_L	Light Current		500	mA

*1/16 inch from case for 3 secs max

SPECTRAL RESPONSE



ELECTRO-OPTICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{SC}	Short Circuit Current	H = 100 fc, 2850 K	28	35		μA
I_D	Dark Current	H = 0, V_R = 10 V		2	10	nA
R_{SH}	Shunt Resistance	H = 0, V_R = 10 mV	500	1000		MΩ
TCR_{SH}	RSH Temp. Coefficient	H = 0, V_R = 10 mV		-8		% / °C
C_J	Junction Capacitance	H = 0, V_R = 0 V*		4		pF
λrange	Spectral Application Range	(without daylight filter)**	400		1100	nm
λp	Spectral Response - Peak			950		nm
V_{BR}	Breakdown Voltage	I = 10 μA	15	25		V
NEP	Noise Equivalent Power	V_R = 10 V @ Peak		$1.5x10^{-14}$		W/$\sqrt{Hz}$
tr	Response Time	RL = 1 KΩ V_R = 10 V		10		nS

 *f = 1 MHz, ** daylight filter = 700 - 1100 nm