



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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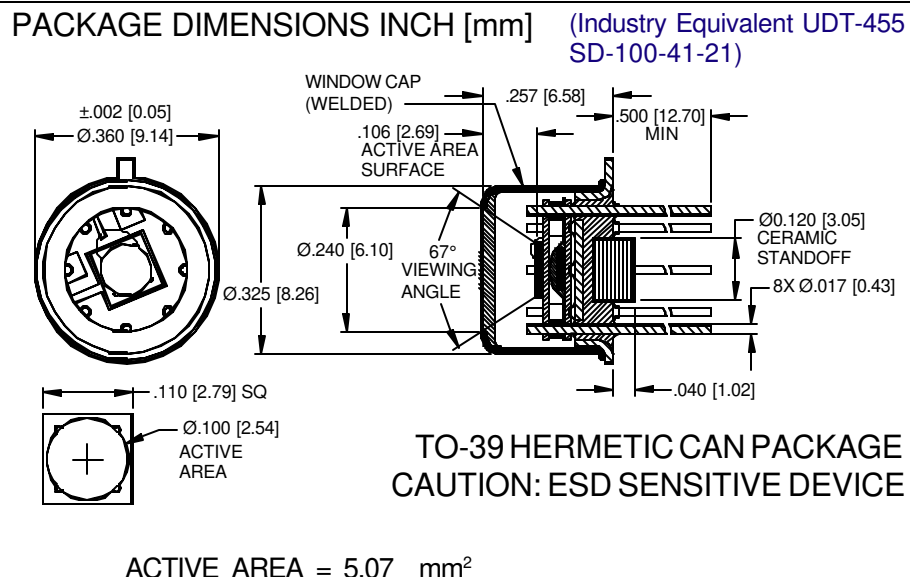
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PHOTONIC DETECTORS INC.

Detector Amplifier Hybrid, Blue Enhanced (ref PDB-C705) Type PDB-705



FEATURES

- Low input bias current
- Low offset voltage
- 1 MHz bandwidth

DESCRIPTION

The **PDB-705** is a low noise, medium speed, blue enhanced silicon photodiode integrated with a low noise JFET monolithic trans-impedance op-amp. The feedback capacitor & resistor circuit are externally connected.

APPLICATIONS

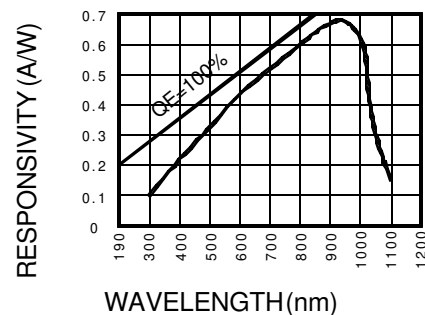
- Medical diagnostic
- Low signal level applications
- Spectroscopy

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

SYMBOL	PARAMETER	MIN	MAX	UNITS
V _{BR}	Reverse Voltage		15	V
T _{STG}	Storage Temperature	-55	+125	°C
T _O	Operating Temperature Range	0	+70	°C
T _S	Soldering Temperature*		+240	°C
I _L	Light Current		500	mA

*1/16 inch from case for 3 secs max

SPECTRAL RESPONSE



PHOTODIODE 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	45	65		μA
I _D	Dark Current	H = 0, V _R = 10 V		1.0	5.0	nA
R _{SH}	Shunt Resistance	H = 0, V _R = 10 mV	.5	2		GΩ
TC R _{SH}	RSH Temp. Coefficient	H = 0, V _R = 10 mV		-8		% / °C
C _J	Junction Capacitance	H = 0, V _R = 10 V**		15		pF
λ _{range}	Spectral Application Range	Spot Scan	350		1100	nm
λ _p	Spectral Response - Peak	Spot Scan		950		nm
V _{BR}	Breakdown Voltage	I = 10 μA	100	125		V
NEP	Noise Equivalent Power	VR = 10 V @ Peak		2.5x10 ⁻¹⁴		W/√Hz
tr	Response Time	RL = 1 KΩ V _R = 10 V		15		nS

Information in this technical data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice. ** f = 1 MHz

AMPLIFIER SPECIFICATION TA=25° C and VS=±15 vdc UNLESS OTHERWISE NOTED

CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
INPUT OFFSET VOLTAGE (V _{OS})	INITIAL OFFSET		0.75	2.0	mV
	LONG TERM OFFSET STABILITY		15		μV/MONTH
AVERAGE INPUT OFFSET DRIFT (TCV _{OS})	R _L = 100 KΩ			20	μV/°C
INPUT BIAS CURRENT (I _b)	OFFSET CURRENT, V _{CM} =0		5	10	pA
INPUT OFFSET CURRENT (I _{OS})			5		pA
INPUT VOLTAGE RANGE (I _{VR})	COMMON MODE REJECTION V _{CM} ±10V	±11	±12		V
INPUT VOLTAGE NOISE	VOLTAGE 0, f=100 Hz		40		nV/√Hz
	VOLTAGE 0, f=1 KHz		30		nV/√Hz
INPUT CURRENT NOISE (i _n)	TYP f=100 Hz		1.8		fA/√Hz
FREQUENCY RESPONSE	UNITY GAIN, SMALL SIGNAL	0.8	1.0		MHz
	SLEW RATE, UNITY GAIN	1.0	1.8		V/μs
CLOSED LOOP GAIN (CLBW)	AVCL=+5 V		9		Mhz
SUPPLY CURRENT (I _{SV})					mP
SHORT CIRCUIT CURRENT			15		mA
POWER SUPPLY	OPERATING VOLTAGE	±4.5		±18	V

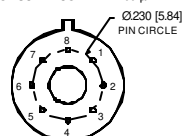
AMPLIFIER ABSOLUTE MAXIMUM RATING (TA=25°C UNLESS OTHERWISE NOTED)

PARAMETER	MIN	MAX	UNITS
SUPPLY VOLTAGE		18	V
DIFFERENTIAL INPUT VOLTAGE		±20	V
STORAGE TEMPERATURE	-55	+125	° C
OPERATING TEMPERATURE	0	+70	° C

PIN CONNECTIONS

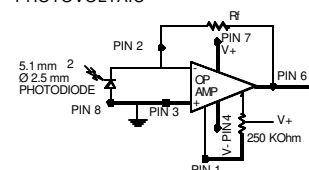
- 1- OFFSET ADJUSTMENT
- 2- INVERTING INPUT/ CATHODE OF PHOTODIODE
- 3- NON-INVERTING INPUT/ CASE GROUND
- 4- NEGATIVE SUPPLY VOLTAGE
- 5- OFFSET ADJUSTMENT
- 6- OUTPUT
- 7- POSITIVE SUPPLY VOLTAGE
- 8- ANODE OF PHOTODIODE

POWER SUPPLY RATED @ ±15 V
RANGE ±4.3 V - ±18 V
QUIESCENT CURRENT 200 μA MAX



BOTTOM VIEW

PHOTOVOLTAIC



PHOTOCONDUCTIVE

