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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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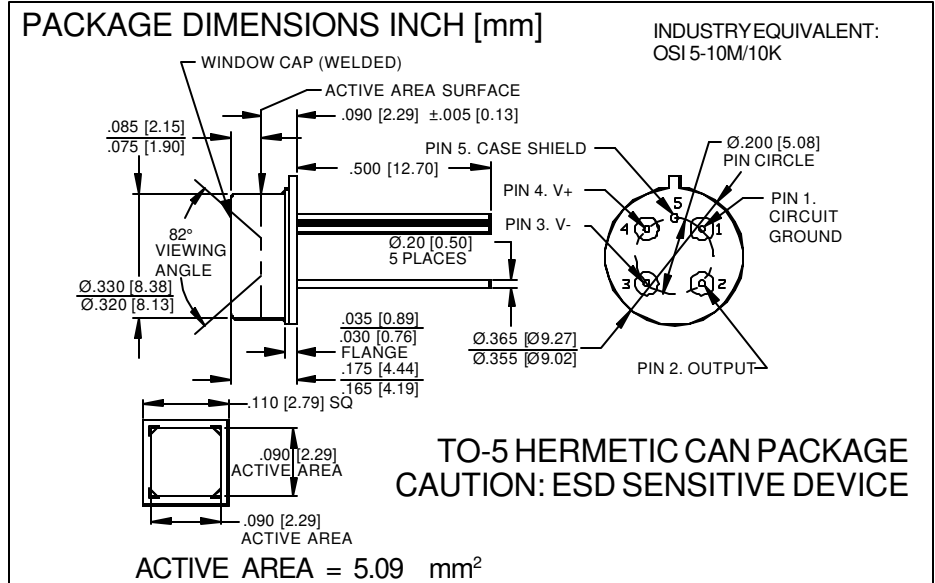
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PHOTONIC DETECTORS INC.

Detector Amplifier Hybrid, Blue Enhanced Type PDB-711-10



FEATURES

- 10 KHz bandwidth
- Internal 10 MOhm gain
- Low offset voltage
- Low input bias current

DESCRIPTION: The **PDB-711-10** is a low noise, medium speed, blue enhanced silicon photodiode integrated with a low noise JFET monolithic transimpedance op-amp. There is an internal 10 MOhm feedback gain resistor which limits the bandwidth to 10KHz.

APPLICATIONS

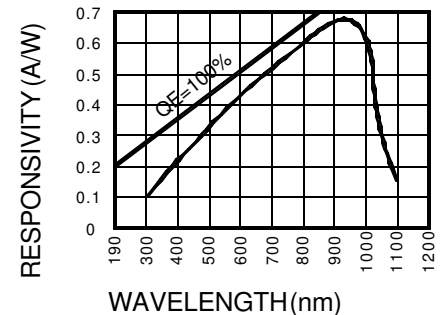
- Medical diagnostic
- Low signal applications
- Color analysis
- Analytical chemistry

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 | V _R = 10 V @ Peak | | 2.5x10 ⁻¹⁴ | | W/√Hz |
| t _r | Response Time | R _L = 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 |
|--|--|------|---------------------------|-----|----------|
| FEEDBACK NETWORK 10 MEG Ω RESISTOR, 1pF* CAPACITOR | THIN FILM RESISTOR TRIMMED TO ±5% *TOL ±5% | | 10 | | MEG Ω |
| INPUT OFFSET VOLTAGE | INITIAL OFFSET | | 0.75 | 2.0 | mV |
| | LONG TERM OFFSET STABILITY | | 15 | | μV/MONTH |
| INPUT BIAS CURRENT | OFFSET CURRENT, VCM=0 | | 5 | 20 | pA |
| INPUT IMPEDANCE | DIFFERENTIAL | | 1 X 10 ¹² 3 | | Ω pF |
| | COMMON MODE | | 1 X 10 ¹² 3 | | |
| INPUT VOLTAGE RANGE | COMMON MODE | ±11 | ±12 | | V |
| | COMMON MODE REJECTION VCM ±10V | 76 | 90 | | |
| INPUT VOLTAGE NOISE | VOLTAGE 0, 1 Hz TO 10 Hz | | 2 | | μV p-p |
| | VOLTAGE 0, f=10 KHz | | 30 | | nV/√Hz |
| INPUT CURRENT NOISE | f=1 KHz | | 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 |
| OPEN LOOP GAIN | vo = ±10 V, RL = 10 KΩ | 300 | 1000 | | V/mV |
| OUTPUT CHARACTERISTICS | VOLTAGE @ RL = 10 KΩ | ±12 | ±13 | | V |
| | VOLTAGE @ RL > 5 KΩ | ±11 | ±12.3 | | V |
| POWER SUPPLY | OPERATING RANGE | ±4.5 | ±15 | ±18 | V |

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

| PARAMETER | MIN | MAX | UNITS |
|----------------------------|------|------|-------|
| SUPPLY VOLTAGE | ±4.5 | ±18 | V |
| INTERNAL POWER DISSIPATION | | 500 | mW |
| STORAGE TEMPERATURE | -55 | +150 | ° C |
| OPERATING TEMPERATURE | 0 | +70 | ° C |

