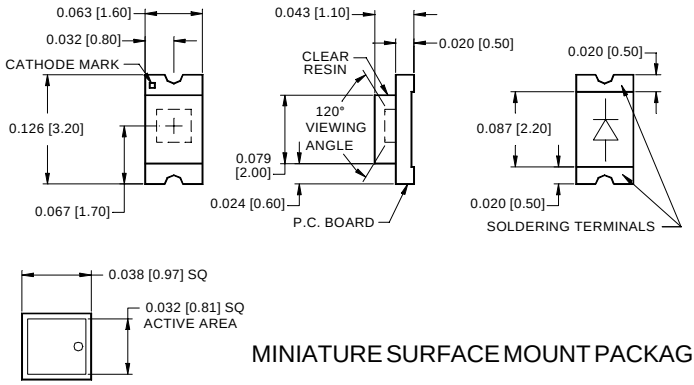
# PHOTONIC DETECTORS INC.

## Silicon Photodiode, Blue Enhanced Photoconductive surface mount package Type PDB-C152SM

PACKAGE DIMENSIONS INCH [mm]




MINIATURE SURFACE MOUNT PACKAGE

ACTIVE AREA = 0.65 mm$^2$

## FEATURES

- Surface mount
- Low cost
- Tape and reeled
- High speed

## DESCRIPTION

The **PDB-C152SM** is a silicon, PIN planar diffused, blue enhanced photodiode. Ideal for high speed photoconductive applications. Packaged in water clear miniature surface mount package.

## APPLICATIONS

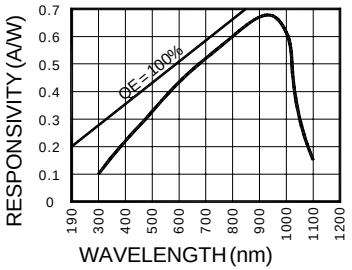
- Floppy disk drives
- Industrial controls
- Opto switches
- Opto counters

## ABSOLUTE MAXIMUM RATING (TA=25$^{O}$C unless otherwise noted)

| SYMBOL | PARAMETER | MIN | MAX | UNITS |
|---|---|---|---|---|
| $V_{BR}$ | Reverse Voltage | | 50 | V |
| $T_{STG}$ | Storage Temperature | -40 | +90 | $^{O}$C |
| $T_O$ | Operating Temperature Range | -40 | +85 | $^{O}$C |
| $T_S$ | Soldering Temperature* | | +240 | $^{O}$C |
| $I_L$ | Light Current | | 500 | mA |

*1/16 inch from case for 3 secs max

## SPECTRAL RESPONSE




## ELECTRO-OPTICAL CHARACTERISTICS (TA=25$^{O}$C unless otherwise noted)

| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|---|---|---|---|---|---|---|
| $I_{SC}$ | Short Circuit Current | H = 100 fc, 2850 K | 8 | 10 | | $\mu$A |
| $I_D$ | Dark Current | H = 0, $V_R$ = 10 V | | 2 | 10 | nA |
| $R_{SH}$ | Shunt Resistance | H = 0, $V_R$ = 10 mV | .5 | 5 | | GΩ |
| TC $R_{SH}$ | $R_{SH}$ Temp. Coefficient | H = 0, $V_R$ = 10 mV | | -8 | | % / $^{O}$C |
| $C_J$ | Junction Capacitance | H = 0, $V_R$ = 10 V** | | 15 | 20 | pF |
| λrange | Spectral Application Range | Spot Scan | 400 | | 1100 | nm |
| λp | Spectral Response - Peak | Spot Scan | | 950 | | nm |
| $V_{BR}$ | Breakdown Voltage | I = 10 $\mu$A | 50 | 100 | | V |
| NEP | Noise Equivalent Power | $V_R$ = 10 V @ Peak | | $1.5x10^{-13}$ | | W/ $\sqrt{Hz}$ |
| tr | Response Time | RL = 1 KΩ $V_R$ = 10 V | | 50 | | nS |