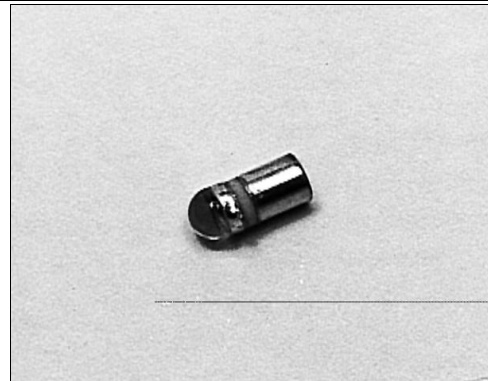


# SD2420

## Silicon Photodiode

### FEATURES

- Miniature, hermetically sealed, pill style, metal can package
- 48° (nominal) acceptance angle
- Wide operating temperature range (- 55°C to +125°C)
- Ideal for direct mounting to printed circuit boards
- Mechanically and spectrally matched to SE2460 and SE2470 infrared emitting diodes



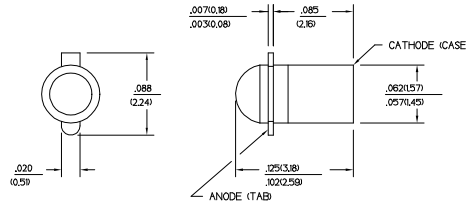
INFRA-1.TIF

### DESCRIPTION

The SD2420 is a PN silicon photodiode mounted in a hermetically sealed, glass lensed, metal can package. This package directly mounts in double sided PC boards.

### OUTLINE DIMENSIONS in inches (mm)

|           |                |              |
|-----------|----------------|--------------|
| Tolerance | 3 plc decimals | ±0.005(0.12) |
|           | 2 plc decimals | ±0.020(0.51) |



DIM\_014.cdr

# SD2420

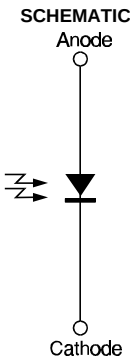
## Silicon Photodiode

| ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted) |                                 |     |     |     |       |                                                      |
|----------------------------------------------------------|---------------------------------|-----|-----|-----|-------|------------------------------------------------------|
| PARAMETER                                                | SYMBOL                          | MIN | TYP | MAX | UNITS | TEST CONDITIONS                                      |
| Light Current<br>SD2420-002                              | I <sub>L</sub>                  | 7.0 |     |     | μA    | V <sub>R</sub> =20 V<br>H=20 mW/cm <sup>2</sup> ( 1) |
| Dark Current                                             | I <sub>D</sub>                  |     |     | 5.0 | nA    | V <sub>R</sub> =20 V<br>H=0                          |
| Reverse Breakdown Voltage                                | V <sub>BR</sub>                 | 50  |     |     | V     | I <sub>R</sub> =10 μA                                |
| Angular Response ( 2)                                    | Ø                               |     | 48  |     | degr. | I <sub>F</sub> =Constant                             |
| Rise And Fall Time                                       | t <sub>r</sub> , t <sub>f</sub> |     | 50  |     | ns    | V <sub>R</sub> =20 V<br>R <sub>L</sub> =50 Ω         |

Notes  
 1. The radiation source is a tungsten lamp operating at a color temperature of 2870°K.  
 2. Angular response is defined as the total included angle between the half sensitivity points.

| ABSOLUTE MAXIMUM RATINGS                           |                |
|----------------------------------------------------|----------------|
| (25°C Free-Air Temperature unless otherwise noted) |                |
| Cathode Anode Voltage                              | 50 V           |
| Power Dissipation                                  | 125 mW ( 1)    |
| Operating Temperature Range                        | -55°C to 125°C |
| Storage Temperature Range                          | -65°C to 150°C |
| Soldering Temperature (10 sec)                     | 260°C          |

Notes  
 1. Derate linearly from 25°C free-air temperature at the rate of 1.19 mW/°C.

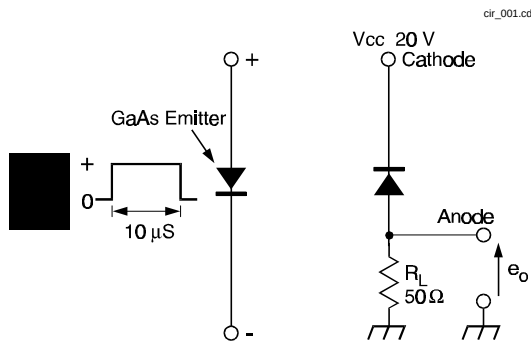


Honeywell reserves the right to make changes in order to improve design and supply the best products possible.

# SD2420

## Silicon Photodiode

SWITCHING TIME TEST CIRCUIT



SWITCHING WAVEFORM

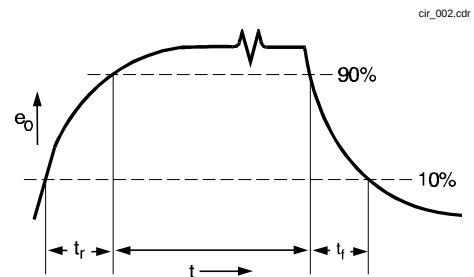


Fig. 1 Responsivity vs Angular Displacement

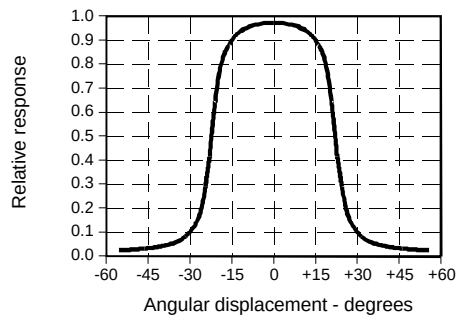


Fig. 2 Dark Current vs Temperature

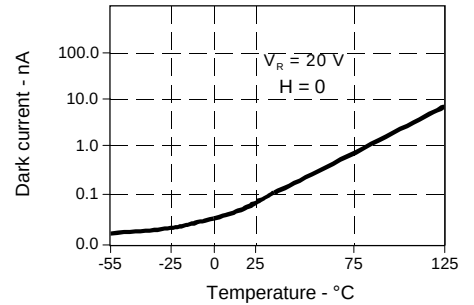
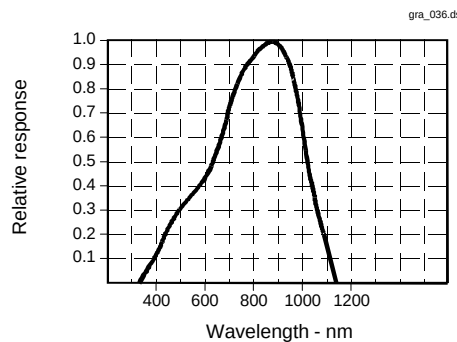


Fig. 3 Spectral Responsivity



All Performance Curves Show Typical Values

# SD2420

Silicon Photodiode

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