

High Voltage Opto-diode - Axial Lead

Preliminary Released: 01-12-09

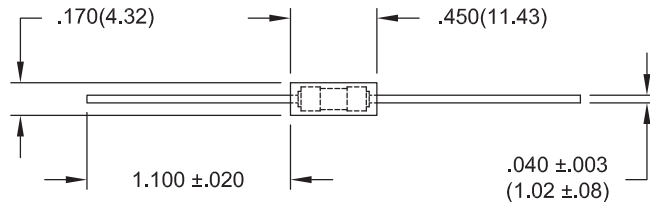
0.5 A • 3000ns

| ELECTRICAL CHARACTERISTICS AND MAXIMUM RATINGS | | | | | | | | | | | | | |
|--|--|----------|--|-------|--------------------------------------|------|---|---|--|---------------------------------------|-------|--------|--|
| Working Reverse Voltage (V _{rw}) | Average Rectified Current (I _o) | | Reverse Current @ V _{rw} (I _r) | | Forward Voltage (V _f) | | 1 Cycle Surge Current t _p =8.3ms (I _{fsm}) | Repetitive Surge Current (I _{frm}) | Reverse Recovery Time (3) (T _{rr}) | Thermal Impedance θ _{J-L} | | | Junction Cap. @50VDC @ 1kHz (C _j) |
| | 55°C(1) | 100°C(2) | 25°C | 100°C | 25°C | | 25°C | 25°C | 25°C | 25°C | L=000 | L=.125 | L=.250 |
| Volts | Amps | Amps | µA | µA | Volts | Amps | Amps | Amps | ns | °C/W | °C/W | °C/W | pF |
| 10000 | 0.50 | 0.25 | 1.0 | 25 | 12.0 | 0.60 | 25 | 5.0 | 3000 | 6 | 9 | 15 | 8.0 |
| (1)TL=55°C L=0.375" (2)TL=100°C L=0.375" (3)I _f =0.5A, I _r =1.0A, I _{rr} =0.25A *Op.Temp.= -65°C to +175°C Stg.Temp.= -65°C to +200°C | | | | | | | | | | | | | |

Markings:
B VMI
A D/C
N
D

Tolerance:
XXX ±.010

PRELIMINARY



Dimensions: In. (mm) • All temperatures are ambient unless otherwise noted. • Data subject to change without notice.



Voltage Multipliers Inc.

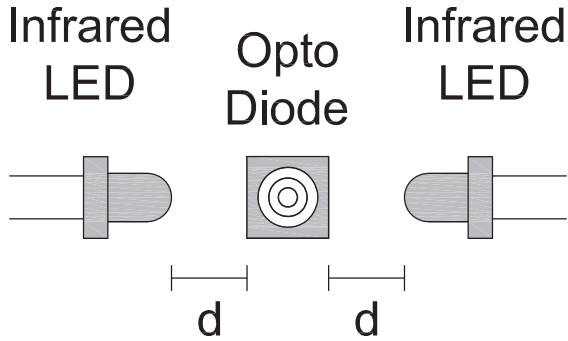
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OPTO - DIODE

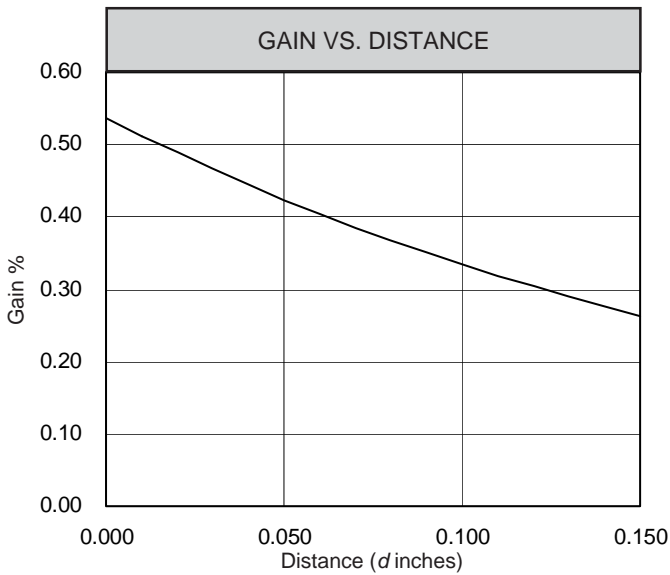
Typical HV Opto-Coupler Configuration



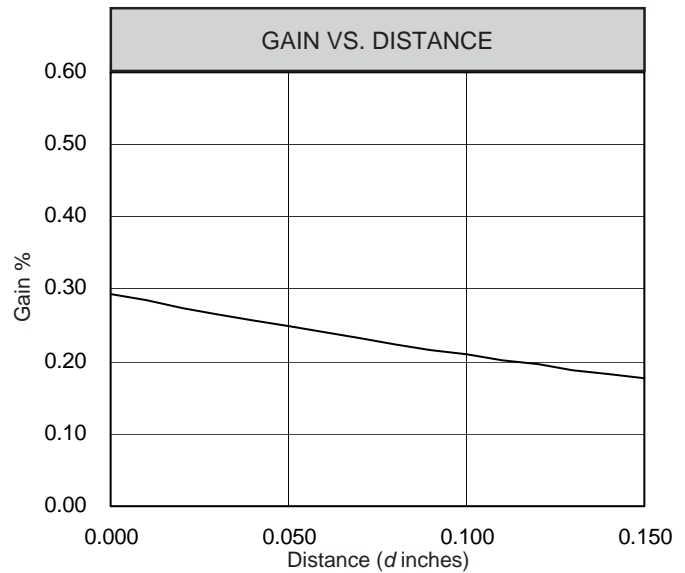
- LEDs placed in close proximity to opto-diode.
- Gain of configuration is determined by:

$$\frac{I_{\text{OPTO}}}{I_{\text{LED}}} \times 100\%$$
- Gain is dependent on:
 - Distance (d) of LEDs from opto-diode.
 - Wavelength of LED light (λ_{LED}).
 - Intensity of LED light (Φ_e).
 - Optical properties of medium between LEDs and opto-diode.

$\lambda_{\text{LED}} = 940 \text{ nm}, \Phi_{e \text{ min}} = 40 \text{ mW/sr}$



$\lambda_{\text{LED}} = 890 \text{ nm}, \Phi_{e \text{ min}} = 50 \text{ mW/sr}$



Both configurations use $V_{\text{OPTO}} = 10\text{kV}$ and two LEDs

OPTO - DIODE

