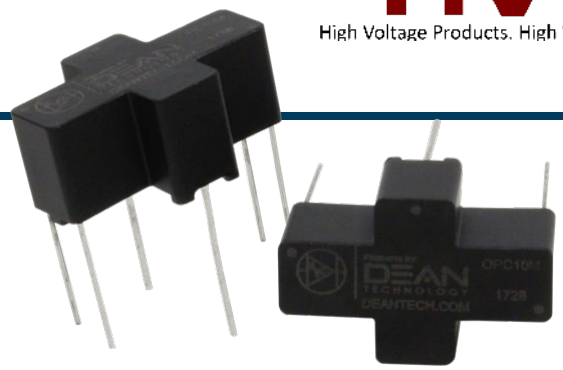
OPC10M

10kV, 80mA
Optical Switch

HVP
High Voltage Products. High Voltage Experts



Features

- High Voltage Optocoupler
- Integrated Low Voltage LED Drivers with 10kV Photo Detector Diode
- Black Casing, Light Tight Packaging
- Custom Versions Available

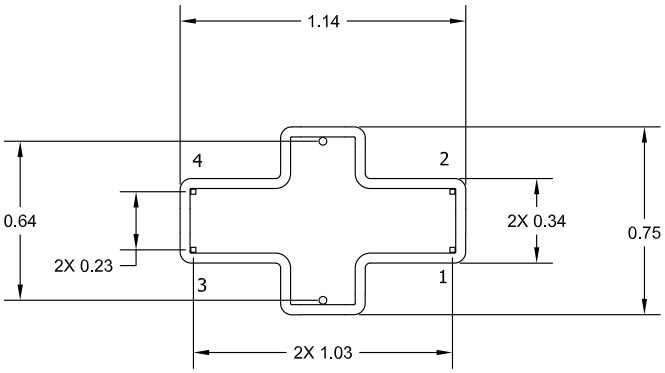
Specifications[1]

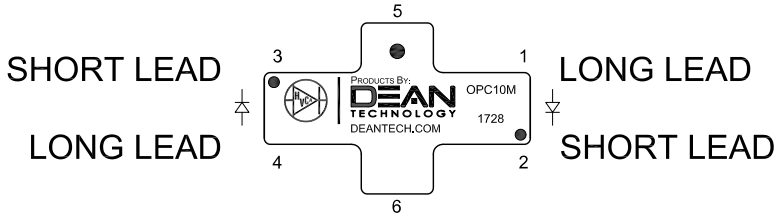
Part Number	V_{RRM} V	I_{FAVM} mA	V_F V	I_R µA	I_{FSM} A	C_J pF	CTR %	t_{ON} µs	t_{OFF} µs	Insulation Voltage V	I_{LED} mA	V_{FLED} V	V_{RLED} V
OPC10M	10000	80	12	25	10	3	0.48	2	2	12000	100	1.25	5

Temperature °C	
Operating Temperature	-40 to 85
Storage Temperature	-55 to 100
Maximum Junction Temperature	100

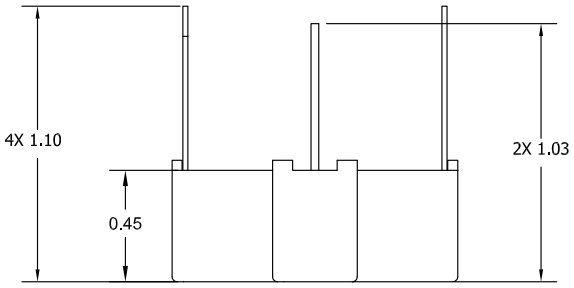
[1]25°C ambient temperature unless stated otherwise.

Drawings





Dimensions in inches, tolerances ±0.020 except as noted



Pin Dimensions	
1, 2, 3, 4	Round Pins 0.020” [0.51 mm] to 0.023” [0.58 mm]
5, 6	Round Pins 0.029” [0.74 mm] to 0.030” [0.76 mm]

Test Circuit

Figure 1 - Test Circuit

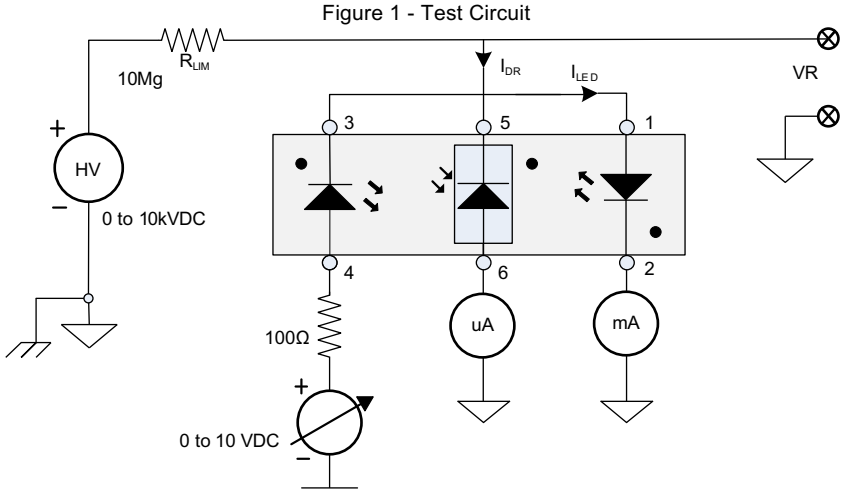


Figure 2 – Photo Detector Diode Current vs. LED Current

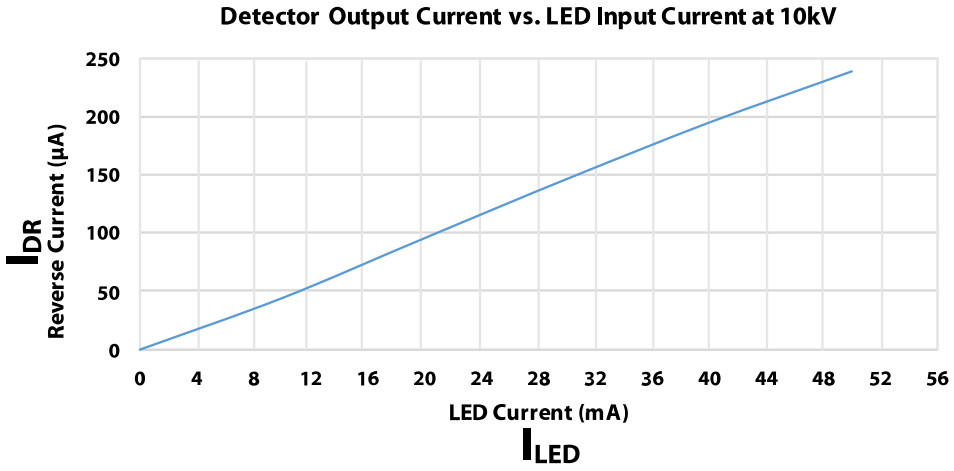
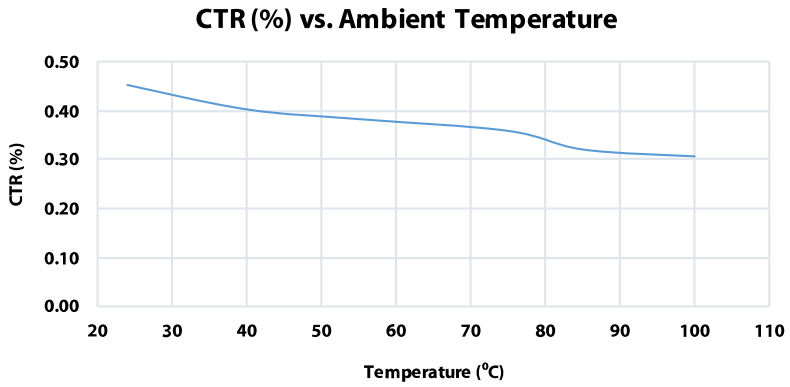
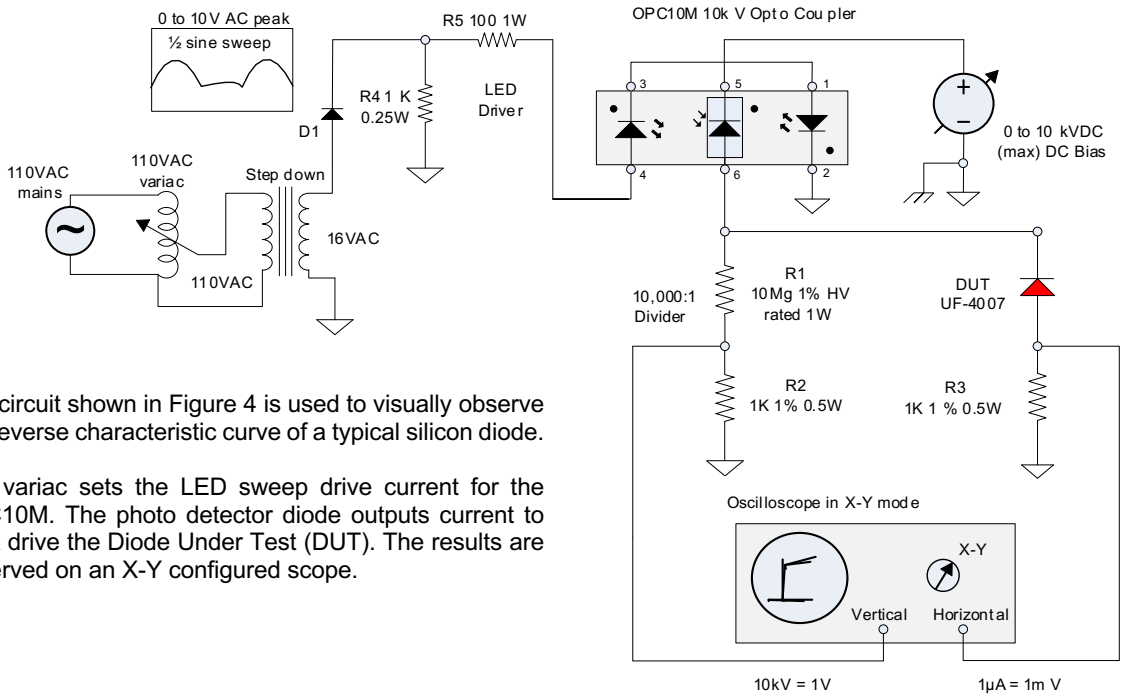


Figure 3 – Optocoupler Current Transfer Ratio vs. Ambient Temperature
(Represents use of OPC10M in Test Circuit)



Sample Application Circuit

Figure 4 – Visual Diode Tester



The circuit shown in Figure 4 is used to visually observe the reverse characteristic curve of a typical silicon diode.

The variac sets the LED sweep drive current for the OPC10M. The photo detector diode outputs current to back drive the Diode Under Test (DUT). The results are observed on an X-Y configured scope.

Specification Definitions

	Specifications	Conditions
V_{RRM}	Maximum Repetitive Reverse Voltage	-
I_{FAVM}	Maximum Average Forward Current	At T_A = 55°C
V_F	Maximum Forward Voltage Drop	At I_F = 100mA
I_R[2]	Maximum Leakage Current	At V_{DR} = V_{RRM}, I_{LED} = 0mA
I_{FSM}	Maximum Surge Current	At 60Hz, Single Half Sine
C_J	Typical Junction Capacitance	At V_R = 0VDC, f = 1MHz
CTR	Current Transfer Ratio	I_{LED} = 50mA for 1 sec
t_{ON}	Turn-on Time	-
t_{OFF}	Turn-off Time	-
Insulation Voltage	-	LED Drivers to Photo Detector Diode
I_{LED}	Forward DC Current	-
V_{FLED}	Forward Voltage Drop	At I_{LED} = 50mA
V_{RLED}	Reverse Voltage	-

[2]V_{DR} = Detector diode voltage in reverse.

RoHS COMPLIANT

Note: Specifications subject to change without notice. Photo is representation only.