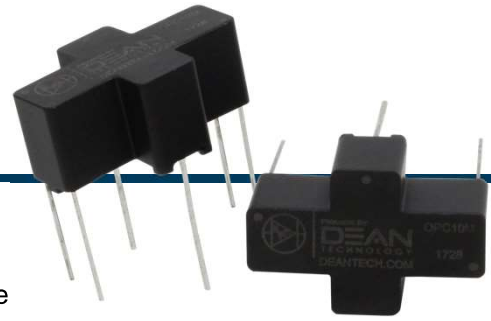


OPC10M

10kV, 80mA
Optical Switch



Features

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

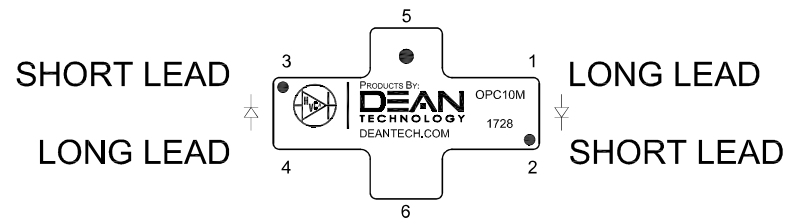
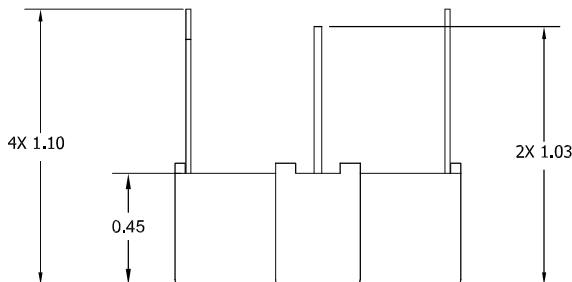
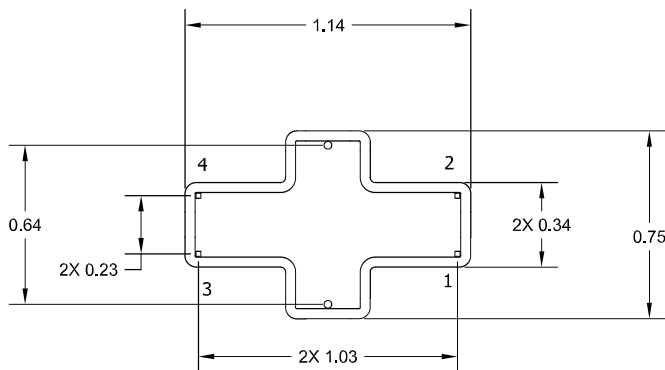
Specifications¹

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

¹25°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

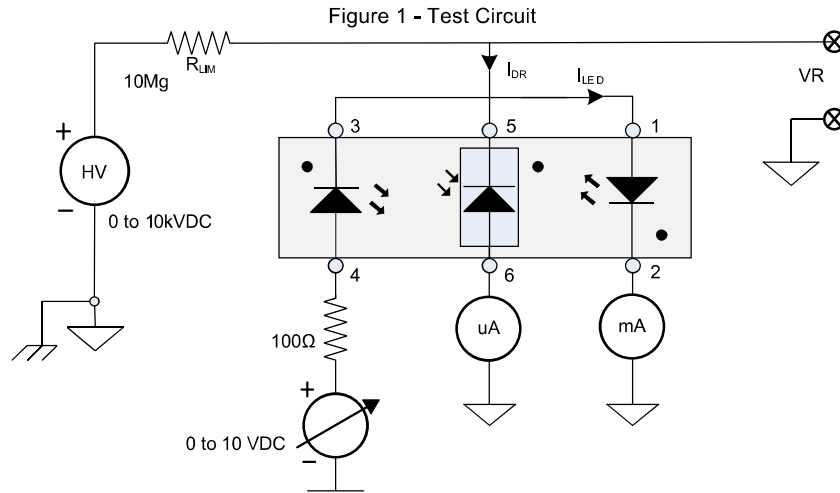


Figure 2 – Photo Detector Diode Current vs. LED Current

Detector Output Current vs. LED Input Current at 10kV

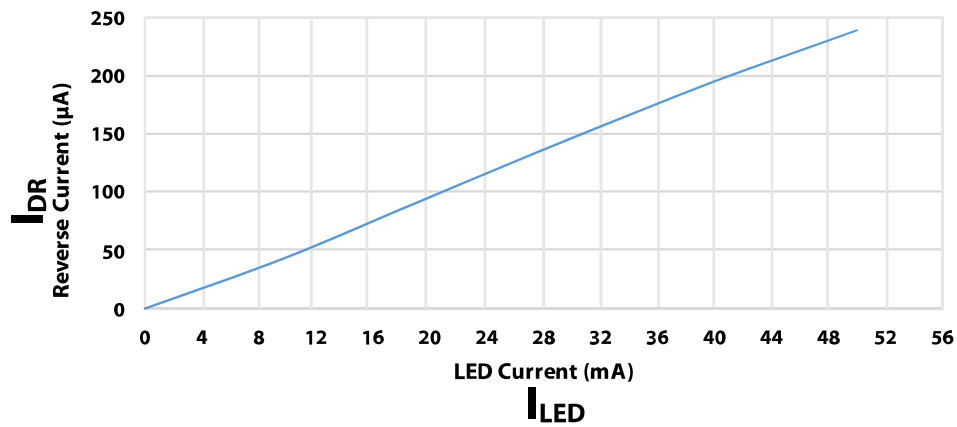
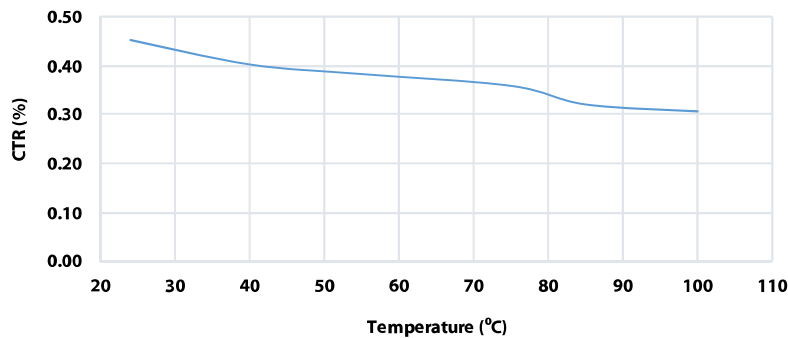


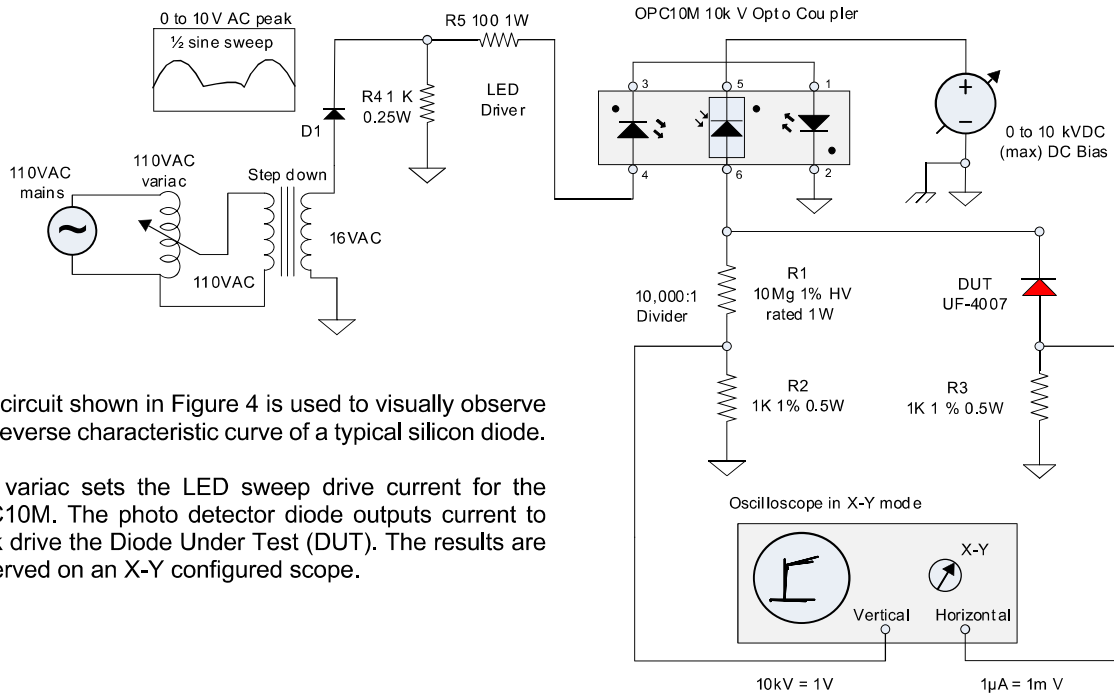
Figure 3 – Optocoupler Current Transfer Ratio vs. Ambient Temperature
(Represents use of OPC10M in Test Circuit)

CTR (%) vs. Ambient Temperature



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_R²	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	-

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

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

