

66156

**SINGLE CHANNEL OPTOCOUPLER
PHOTODIODE OUTPUT
COAXIAL OR BULKHEAD MOUNT PACKAGES**

Mii
OPTOELECTRONIC PRODUCTS
DIVISION

Features:

- High Reliability
- Bulkhead or Press fit version
- Rugged package
- Stable over wide temperature
- +1.0kV electrical isolation

Applications:

- Analog isolation
- Secure telecom
- Line receiver
- Medical
- Monitor motor control voltage

DESCRIPTION

The **66156** contains a Gallium Aluminum Arsenide (GaAlAs) infrared LED optically coupled to a silicon photodiode. This 66156-20X is a hermetically sealed package which is threaded in order to provide convenient bulkhead mounting and is available in standard and screened versions or tested to customer specifications. The 66156-10X is a hermetically sealed coaxial package which can be soldered or press-fit mounted and is also available in the same versions.

ABSOLUTE MAXIMUM RATINGS

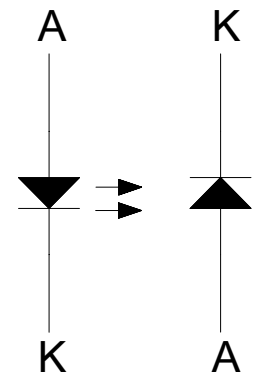
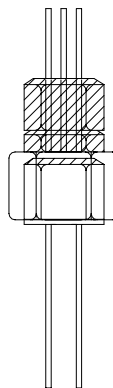
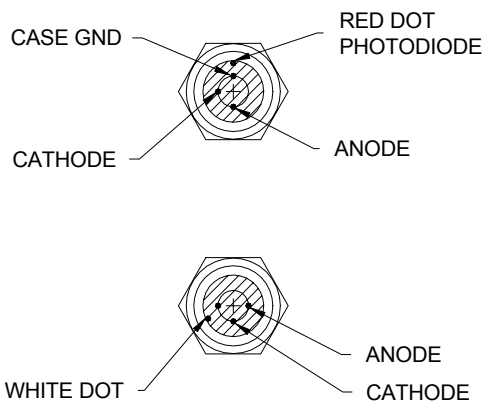
Input to Output Voltage	1.0kV
Reverse LED Input Voltage	3V
Peak Forward Input Current $\leq 1\text{mS}$ (LED, continuous)	100mA
Continuous Transistor Power Dissipation at (or below) 25°C Free-Air Temperature (see Note 2)	300mW
Average Forward Input Current	50mA
Reverse Current (LED)	100 μ A
Reverse Voltage (Detector, 1 min. max)	40V
Total Output Power Dissipation	100mW
Storage Temperature	-65°C to +150°C
Operating Free-Air Temperature Range	-40°C to +85°C
Lead Solder Temperature (10 seconds max.)	260°C

Notes:

1. Derate linearly to 125°C free-air temperature at the rate of 0.68 mW/°C above 65°C.
2. Derate linearly to 125°C free-air temperature at the rate of 3 mW/°C.

Package Dimensions

Schematic Diagram



ELECTRICAL CHARACTERISTICS

T_A = 25°C Unless otherwise specified

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode Static Forward Voltage	V _F			2.2	V	I _F = 50mA
Reverse Breakdown Voltage	B _{VR}	3			V	I _R = 100μA
Input Diode Capacitance	C _{IN}		25		pF	V = 0V, f = 1MHz

OUTPUT TRANSISTOR

T_A = 25°C Unless otherwise specified

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Dark Current	I _D				100μA	V _R = 5V, R _L = 1MΩ
Reverse Breakdown Voltage	B _{VR}	30			V	I _R = 100μA

COUPLED CHARACTERISTICS

T_A = 25°C Unless otherwise specified

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Output Voltage	V _O	1.5			V _{P-P}	I _F = 75Ma, R _L = 3.3kΩ
Rise Time	t _r			200	nS	I _F = 75Ma, R _L = 3.3kΩ
Fall Time	t _f			200	nS	I _F = 75Ma, R _L = 3.3kΩ

RECOMMENDED OPERATING CONDITIONS:

PARAMETER	SYMBOL	MIN	MAX	UNITS
Input Current, Low Level	I _{FL}	0	100	μA
Input Current, High Level	I _{FH}	50	100	mA
Supply Voltage	V _{CE}	5	10	V
Operating Temperature	T _A	-40	+85	°C

SELECTION GUIDE

PART NUMBER	PART DESCRIPTION
66156-103	Single Channel, (0 to 70°C) operating range. Press-fit, coaxial package
66156-104	Single Channel, (-40 to 85°C) operating range. Press-fit, coaxial package
66156-203	Single Channel, (0 to 70°C) operating range. Bulkhead mount package
66156-204	Single Channel, (-40 to 85°C) operating range. Bulkhead mount package