

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

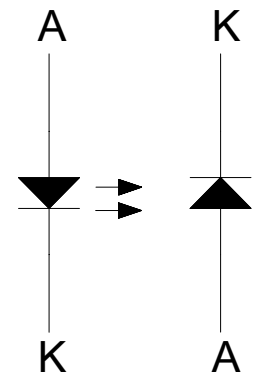
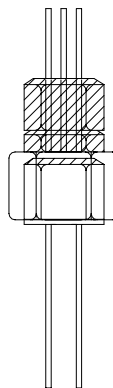
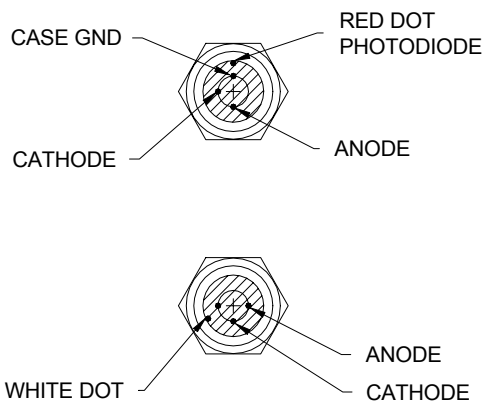
Input to Output Voltage	1.0kV
Reverse LED Input Voltage	3V
Peak Forward Input Current \leq 1mS (LED, continuous)	100mA
Continuous Transistor Power Dissipation at (or below) 25°C Free-Air Temperature (see Note 2)	300mW
Average Forward Input Current	50mA
Reverse Current (LED)	100 μ A
Reverse Voltage (Detector, 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 mA/°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