

66260

**6 PIN GULL WING
PROTON RADIATION TOLERANT OPTOCOUPLER**



10/04/2012

Features:

- High Reliability
- Base lead provided for conventional transistor biasing
- Rugged package
- Stability over wide temperature
- +1000V electrical isolation

Applications:

- Eliminate ground loops
- Level shifting
- Line receiver
- Switching power supplies
- Motor control

DESCRIPTION

The **66260** is a single channel device electrically similar to the 4N48. This product has been designed to be more tolerant to proton radiation. The 66260 optocoupler is packaged in a hermetically sealed 6 pin gull wing package. This device can be supplied to customer specifications as well as tested and screened to the requirements of MIL-PRF-19500 up to space (JANS) level.

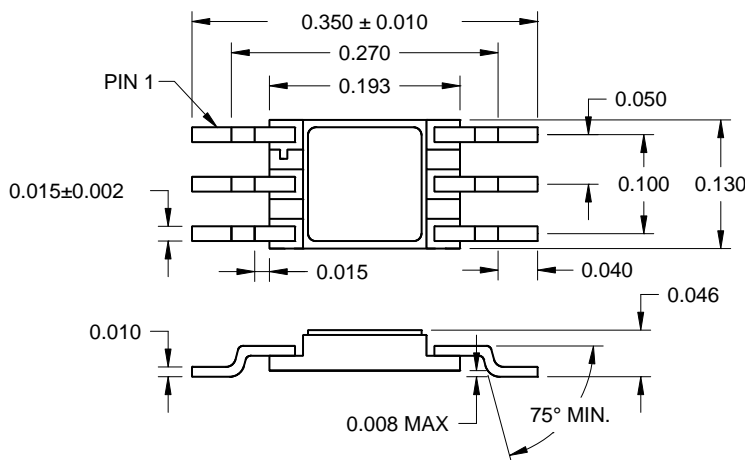
ABSOLUTE MAXIMUM RATINGS

Input to Output Voltage	1 kV
Emitter-Base Voltage	7 V
Collector-Emitter Voltage (Value applies to emitter-base open-circuited & the input-diode equal to zero)	60 V
Collector-Base Voltage	60 V
Reverse Input Voltage	7 V
Input Diode Continuous Forward Current at (or below) 65°C Free-Air Temperature (see note 1)	50 mA
Peak Forward Input Current (Value applies for $t_w \leq 1\mu s$, PRR < 300 pps)	1 A
Continuous Collector Current	50 mA
Continuous Transistor Power Dissipation at (or below) 25°C Free-Air Temperature (see Note 2)	300 mW
Storage Temperature.....	-55°C to +150°C
Operating Free-Air Temperature Range	-55°C to +100°C
Lead Solder Temperature (10 seconds max.)	240°C

Notes:

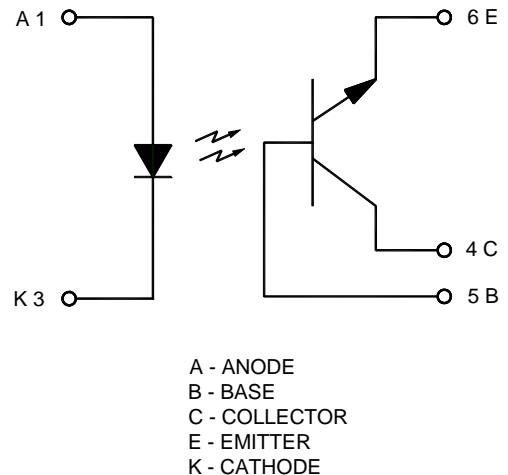
1. Derate linearly to 100°C free-air temperature at the rate of 0.80 mA/°C above 65°C.
2. Derate linearly to 100°C free-air temperature at the rate of 3 mW/°C above 25°C.

Package Dimensions



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
ALL TOLERANCES ARE ±0.005 UNLESS OTHERWISE NOTED.

Schematic Diagram



ELECTRICAL CHARACTERISTICST_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
Input Diode Static Reverse Current	I _R			100	μA	V _R = 3 V	
Input Diode Static Forward Voltage -55°C	V _F	1.0		2.2	V	I _F = 10 mA	
Input Diode Static Forward Voltage +25°C	V _F	0.8	1.8	2.0	V	I _F = 10 mA	
Input Diode Static Forward Voltage +100°C	V _F	0.8		2.2	V	I _F = 10 mA	

OUTPUT TRANSISTORT_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
Collector-Base Breakdown Voltage	V _{(BR)CBO}	45			V	I _C = 100 μA, I _B = 0, I _F = 0	
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	40			V	I _C = 1 mA, I _B = 0, I _F = 0	
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	7			V	I _C = 0 mA, I _E = 100 μA, I _F = 0	
Off-State Collector Current	I _{CEO}			100	nA	V _{CE} = 20 V, I _F = 0 mA, I _B = 0	
+100°C	I _{CEO}			100	μA	V _{CE} = 20 V, I _F = 0 mA, I _B = 0	

COUPLED CHARACTERISTICST_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
On State Collector Current	I _{C(ON)}	1.0			mA	V _{CE} = 5 V, I _F = 1 mA, I _B = 0	
On State Collector Current +100°C	I _{C(ON)}	1.0			mA	V _{CE} = 5.0 V, I _F = 2 mA, I _B = 0	
On State Collector Current -55°C	I _{C(ON)}	1.0			mA	V _{CE} = 5 V, I _F = 2 mA, I _B = 0	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}			0.3	V	I _F = 2 mA, I _C = 1 mA	
Input to Output Internal Resistance	R _{IO}	10 ¹¹			Ω	V _{IN-OUT} = 1000 V	1
Input to Output Capacitance	C _{IO}		2.5	5	pF	f = 1 MHz, V _{IN-OUT} = 1000 V	1
Rise Time-Phototransistor Operation	t _r		5	10	μs	V _{CC} = 10 V, I _F = 10 mA, R _L = 100 Ω, I _B = 0	
Fall Time-Phototransistor Operation	t _f		5	10	μs	V _{CC} = 10 V, I _F = 10 mA, R _L = 100 Ω, I _B = 0	

NOTES:

- These parameters are measured between all phototransistor leads shorted together and with both input diode leads shorted together.
- This parameter must be measured using pulse techniques (t_W = 100 μs duty cycle ≤ 1%).

RECOMMENDED OPERATING CONDITIONS:

PARAMETER	SYMBOL	MIN	MAX	UNITS
Input Current, Low Level	I _{FL}	0	90	μA
Input Current, High Level	I _{FH}	1	10	mA
Supply Voltage	V _{CE}	5	10	V
Operating Temperature	T _A	-55	100	°C

SELECTION GUIDE

PART NUMBER	PART DESCRIPTION
66260-001	Commercial
66260-101	Screened to JAN Level
66260-103	Screened to JANTX Level
66260-105	Screened to JANTXV Level
66260-300	Screened to JANS Level