

66260

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



05/31/2013

Features:

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

Applications:

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

DESCRIPTION

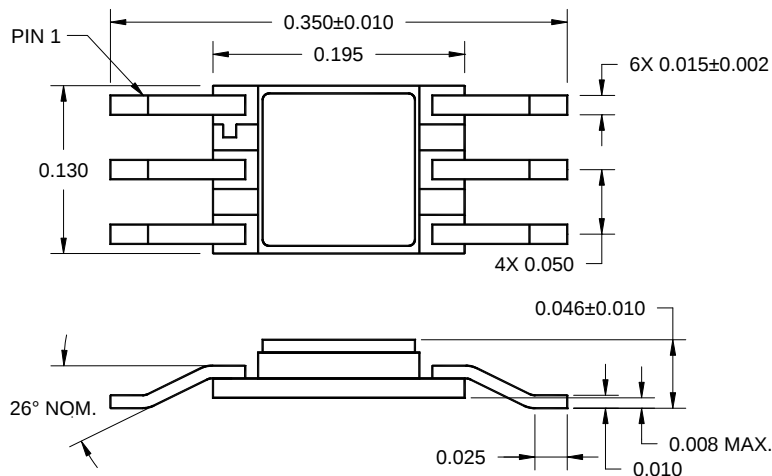
The **66260** is a single channel device electrically similar to the 4N48. This product has been designed to be more tolerant to proton radiation. The 66260 optocoupler is packaged in a hermetically sealed 6 pin gull wing package. This device can be supplied to customer specifications as well as tested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

ABSOLUTE MAXIMUM RATINGS

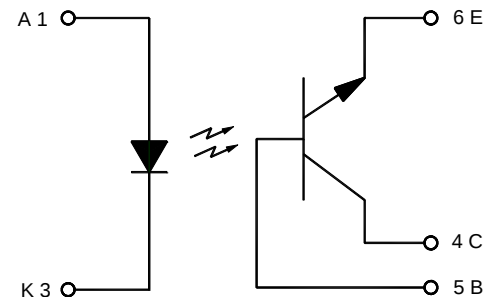
Input to Output Voltage	1 kV
Emitter-Base Voltage	7 V
Collector-Emitter Voltage (Value applies to emitter-base open-circuited & the input-diode equal to zero)	60 V
Collector-Base Voltage	60 V
Reverse Input Voltage	7 V
Input Diode Continuous Forward Current at (or below) 25°C Free-Air Temperature (see 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.....	-65°C to +125°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 0.67 mW/°C above 25°C.
2. Derate linearly to 100°C free-air temperature at the rate of 4 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

A - ANODE
 B - BASE
 C - COLLECTOR
 E - EMITTER
 K - CATHODE

Micropac Industries cannot assume any responsibility for any circuits shown or represent that they are free from patent infringement.
 Micropac reserves the right to make changes at any time in order to improve design and to supply the best product possible.

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6 PIN GULL WING PROTON RADIATION TOLERANT OPTOCOUPLER**ELECTRICAL CHARACTERISTICS** $T_A = 25^\circ\text{C}$ unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
Input Diode Static Reverse Current	I_R			100	μA	$V_R = 3\text{ V}$	
Input Diode Static Forward Voltage -55°C	V_F	1.0		2.2	V	$I_F = 10\text{ mA}$	
Input Diode Static Forward Voltage $+25^\circ\text{C}$	V_F	0.8	1.8	2.0	V	$I_F = 10\text{ mA}$	
Input Diode Static Forward Voltage $+100^\circ\text{C}$	V_F	0.8		2.2	V	$I_F = 10\text{ mA}$	

OUTPUT TRANSISTOR $T_A = 25^\circ\text{C}$ unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	45			V	$I_C = 100\text{ }\mu\text{A}$, $I_B = 0$, $I_F = 0$	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	40			V	$I_C = 1\text{ mA}$, $I_B = 0$, $I_F = 0$	
Off-State Collector Current $+100^\circ\text{C}$	I_{CEO}			100 100	nA μA	$V_{CE} = 20\text{ V}$, $I_F = 0\text{ mA}$, $I_B = 0$ $V_{CE} = 20\text{ V}$, $I_F = 0\text{ mA}$, $I_B = 0$	

COUPLED CHARACTERISTICS $T_A = 25^\circ\text{C}$ unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
On State Collector Current	$I_{C(ON)}$	1.0			mA	$V_{CE} = 5\text{ V}$, $I_F = 1\text{ mA}$, $I_B = 0$	
On State Collector Current $+100^\circ\text{C}$	$I_{C(ON)}$	1.0			mA	$V_{CE} = 5.0\text{ V}$, $I_F = 2\text{ mA}$, $I_B = 0$	
On State Collector Current -55°C	$I_{C(ON)}$	1.0			mA	$V_{CE} = 5\text{ V}$, $I_F = 2\text{ mA}$, $I_B = 0$	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			0.3	V	$I_F = 2\text{ mA}$, $I_C = 1\text{ mA}$	
Input to Output Internal Resistance	R_{IO}	10^{11}			Ω	$V_{IN-OUT} = 1000\text{ V}$	1
Input to Output Capacitance	C_{IO}		2.5	5	pF	$f = 1\text{ MHz}$, $V_{IN-OUT} = 1000\text{ V}$	1
Rise Time-Phototransistor Operation	t_r		5	10	μs	$V_{CC} = 10\text{ V}$, $I_F = 10\text{ mA}$, $R_L = 100\text{ }\Omega$, $I_B = 0$	
Fall Time-Phototransistor Operation	t_f		5	10	μs	$V_{CC} = 10\text{ V}$, $I_F = 10\text{ mA}$, $R_L = 100\text{ }\Omega$, $I_B = 0$	

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 ($t_W = 100\text{ }\mu\text{s}$ duty cycle $\leq 1\%$).

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	$^\circ\text{C}$

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

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