

66234**FOUR CHANNELS, HERMETIC 16 DUAL-IN-LINE,
OPTICALLY COUPLED ISOLATOR**

06/06/2013

Features:

- High Reliability
- Base lead provided for conventional transistor biasing
- Very high gain, high voltage transistor
- Stability over wide temperature range.
- +1 kVdc electrical isolation
- Screening available

Applications:

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

DESCRIPTION

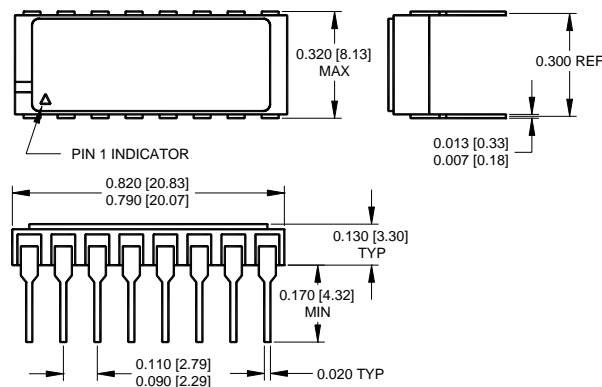
The Mii **66234** are optically coupled isolators, consisting of four GaAlAs LEDs and four silicon phototransistors mounted and coupled in a 16 pin dual-in-line package. All electrical characteristics of each channel are identical to the JEDEC registered 4N49. Each unit contains four channels. These solid state couplers are ideal for designs where board space and device weight are important design considerations.

ABSOLUTE MAXIMUM RATINGS

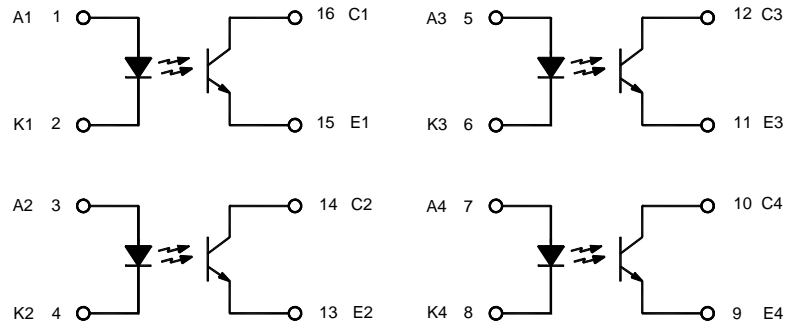
Input-to-output Voltage (Note 1)	± 1 kV
Collector-Emitter Voltage	40 V
Emitter-Collector Voltage	7 V
Input Diode Reverse Voltage	3 V
Input Diode Continuous Forward Current at (or below) 25°C Free-Air Temperature (Note 2)	40 mA
Input Diode Power Dissipation	60 mW
Continuous Collector Current	50 mA
Continuous Transistor Power Dissipation at (or below) 25°C Free-Air Temperature (Note 3)	300 mW
Storage Temperature	-65°C to +150°C
Operating Free-Air Temperature Range	-55°C to +125°C
Lead Solder Temperature (10 seconds, 1/16" from case)	240°C

Notes:

1. Measured with Inputs shorted together and outputs shorted together.
2. Derate linearly to 125°C free-air temperature at the rate of 0.40 mA/°C above 65°C.
3. Derate linearly to 125°C free-air temperature at the rate of 3 mW/°C.

Package Dimensions

ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]

Schematic Diagram

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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ELECTRICAL CHARACTERISTICS

T_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	1
Input Diode Forward Voltage	V _F	1.0		1.7	V	I _F = 10 mA	
		0.8		1.5			
		0.7		1.3			

OUTPUT TRANSISTOR

T_A = 25°C unless otherwise specified.

Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	40			V	I _C = 1 mA, I _F = 0	
Emitter-Collector Breakdown Voltage	V _{(BR)ECO}	7			V	I _E = 100 μA, I _F = 0	

COUPLED CHARACTERISTICS

T_A = 25°C unless otherwise specified.

On State Collector Current T _a = +25°C	I _{C(ON)}	2.0		10	mA	V _{CE} = 5 V, I _F = 1 mA	
On State Collector Current T _a = -55°C	I _{C(ON)}	2.8			mA	V _{CE} = 5 V, I _F = 2 mA	
On State Collector Current T _a = +125°C	I _{C(ON)}	2.0			mA	V _{CE} = 5V, I _F = 2 mA	
Off State Collector Current	I _{C(OFF)}			100	nA	V _{CE} = 20 V, I _F = 0 mA	
Off State Collector Current, T _a = +125°C	I _{C(OFF)}			100	μA	V _{CE} = 20 V, I _F = 0 mA	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}			0.3	V	I _F = 2 mA, I _C = 2 mA, I _F = 2 mA, I _C = 1 mA, I _F = 2 mA, I _C = 0.5 mA,	
Input to Output Resistance	R _{IO}	10 ¹¹			Ω	V _{IN-OUT} = 1 kV, t _w = 100 μs, duty cycle ≤ 1%	1
Input to Output Capacitance	C _{IO}			5	pF	F = 1 MHz, V _{IN-OUT} = 0	
Rise Time (Phototransistor Operation) or Fall Time	t _r or t _f		10	25	μs	V _{CC} = 10 V, I _F = 5 mA, R _L = 100 Ω	

NOTES:

- These parameters are measured between all phototransistor leads shorted together and with both input diode leads shorted together.

SELECTION GUIDE

PART NUMBER	PART DESCRIPTION
66234-001	4N49, Commercial
66234-101	4N49, Screened

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