66192	**GULL WING HERMETICALLY SEALED, SINGLE CHANNEL OPTOCOUPLER (Electrical Equivalent To 66099)**	***Mii*** **OPTOELECTRONIC PRODUCTS DIVISION**

Rev A 6/6/02

Features:	**Applications:**
• Current transfer ratio: 150% typical • 1000 Vdc isolation test voltage • Base lead provided for conventional transistor biasing • Low power consumption • High radiation immunity	• Military and Space • High reliability systems • Voltage Level Shifting • Isolated Receiver Input • Communication systems

DESCRIPTION

Radiation tests performed on the 66099 optocoupler have shown that the electrical performance of the device after irradiation is an order of magnitude better than the 4N49 optocouplers. The ***66192*** has the same components and layout in a 10 pin, hermetically sealed gull wing package. Figures 1 and 2 from the 66099 data sheet illustrate the radiation performance of the device.

ABSOLUTE MAXIMUM RATINGS (t_a =25°C unless otherwise noted)

Storage Temperature ..... -65°C to +125°C
Operating Free-Air Temperature Range ..... -55°C to +100°C
Lead Solder Temperature (1/16in (1.6mm) from case for 10 seconds) ..... 240°C
Input to Output Isolation Voltage .....(see Note 1) 1kVdc

- **Input Diode.**

Peak Forward Input Current 40mA
Reverse Input Voltage 3V
Input Power Dissipation .....(see Note 2)..... 80mW (2)

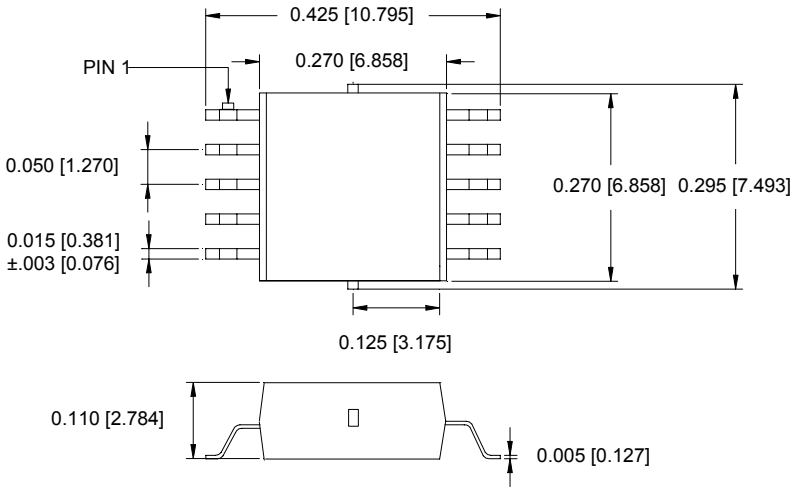
- **Output Photodetector**

Continuous Collector Current 50mA
Collector-Emitter Voltage 150V
Emitter-Collector Voltage 4V
Collector-Base Voltage 150V
Power Dissipation.....(see Note 3) 300mW

Notes:

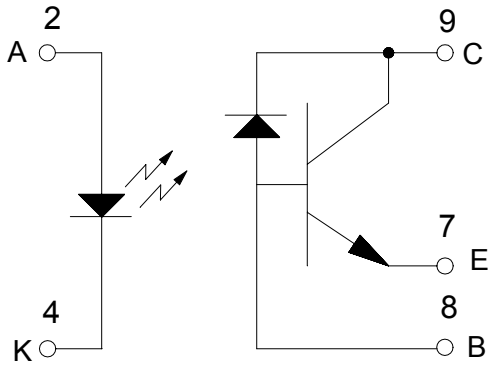
1. Measured with input diode leads shorted together and output leads shorted together.
2. Derate linearly 0.80mW/°C above 25°C.
3. Derate linearly 1.07mW/°C above 25°C.

Package Dimensions



ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]

Schematic Diagram



ELECTRICAL CHARACTERISTICS

T_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode Static Reverse Current	I_R			100	µA	V_R = 2V
Input Diode Static Forward Voltage	V_F	0.8		2	V	I_F = 10mA

OUTPUT TRANSISTOR CHARACTERISTICS

T_A = 25°C unless otherwise noted

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	150			V	I_C = 100µA, I_F = 0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	150			V	I_C = 1mA, I_B = 0, I_F = 0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	4			V	I_E = 100µA, I_F = 0
Collector-Emitter Cutoff Current	I_{CEO}			100	nA	V_{CE} = 20V

COUPLED CHARACTERISTICS

T_A = 25°C unless otherwise noted

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Current Transfer Ratio	CTR	100			%	V_{CE} = 1V, I_F = 10mA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			0.3	V	I_F = 20mA, I_C = 10mA
Input-Output Isolation Current	I_{ISO}			100	nA	V_{I-O} = 1000V
Rise Time	t_r			20	µs	V_{CC} = 10V, I_F = 10mA, R_L = 100Ω
Fall Time	t_f			20	µs	V_{CC} = 10V, I_F = 10mA, R_L = 100Ω

RECOMMENDED OPERATING CONDITIONS:

PARAMETERS	SYMBOL	MIN	MAX	UNITS
Input Current, Low Level	I_{FL}	0	100	µA
Input Current, High Level	I_{FH}	10	20	mA
Supply Voltage	V_{CC}	5.0	100	V
Operating Temperature	T_A	-55	+100	°C

SELECTION GUIDE

PART NUMBER	PART DESCRIPTION
66192-000	Single Channel optocoupler, full mil-temp (-55° to +100°C) with 100% device screening
66192-002	Single Channel optocoupler, military operating range (-55° to +100°C)
66192-003	Single Channel optocoupler, commercial (0° to 70°C)
66192-004	Single Channel optocoupler, extended temperature range (-40° to +85°C)