

**66004 40kV HIGH VOLTAGE ISOLATOR WITH PHOTOTRANSISTOR
or PHOTODARLINGTON OUTPUT, CERAMIC PACKAGE**



09/22/03

Features:

- High Reliability
- Rugged package
- Stability over wide temperature
- 40kVdc electrical isolation

Applications:

- Grid current modulator
- Power Supply Feedback
- Switching between power supplies
- Patient station isolation

DESCRIPTION

The **66004**, high voltage isolator is provided with a GaAlAs light emitting diode and, by your choice of outputs, either a silicon phototransistor or a photodarlington, hermetically sealed in TO-46 packages and mounted in a high reliability, hermetically sealed ceramic package. Available commercial (0° to +70°C) or screened. **Contact the factory for special custom or multi-channel requirements!**

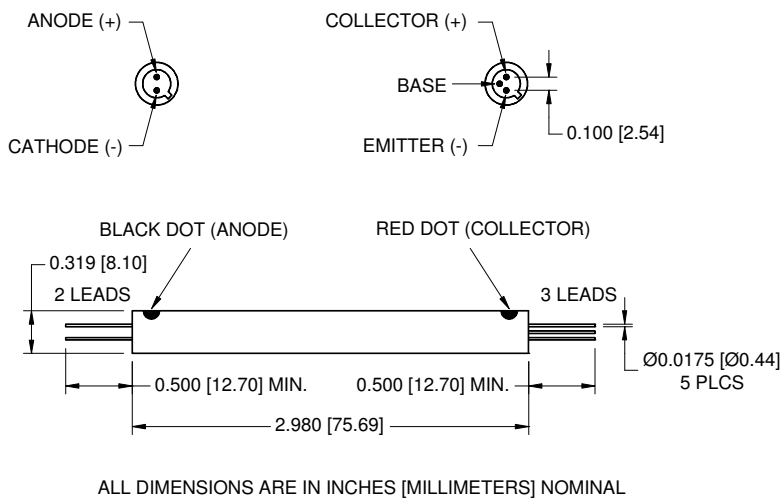
ABSOLUTE MAXIMUM RATINGS

Collector-Emitter Voltage	35V
Emitter-Collector Voltage	7V
Continuous Collector Current	50mA
Continuous Transistor Power Dissipation ... (Note 1)	250mW
Input to Output Isolation Voltage	40kV
Input Diode Continuous Forward Current (Note 2)	100mA
Reverse Input Voltage2V
Continuous LED Power Dissipation ... (Note 1)	250mW
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

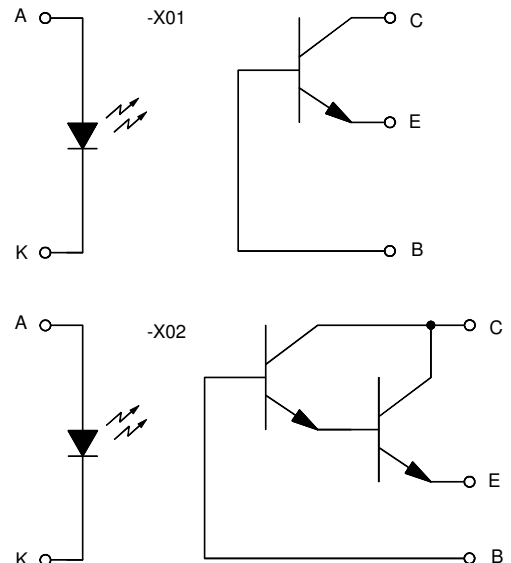
Notes:

1. Derate linearly to 125°C free-air temperature at the rate of 2.5 mW/°C.
2. Derate linearly to 125°C free-air temperature at the rate of 1.0 mA/°C.

Package Dimensions



Schematic Diagram



66004

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**40kV HIGH VOLTAGE ISOLATOR WITH PHOTOTRANSISTOR or
PHOTODARLINGTON OUTPUT, CERAMIC PACKAGE****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		1.15	1.8	V	I _F = 20mA
Reverse Breakdown Voltage	B _{VR}	2	10		V	I _R = 100μA
Input Diode Capacitance	C _{IN}		25		pF	V = 0V, f = 1MHz

OUTPUT TRANSISTORT_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	35			V	I _C = 1mA, I _B = 0, I _F = 0
Collector-Emitter Dark Current	I _{CEO}			75 300	nA nA	V _{CE} = 10V, I _F = 0mA

COUPLED CHARACTERISTICST_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Current Transfer Ratio	CTR	5 100			%	V _{CE} = 5V, I _F = 10mA
Collector-Emitter Saturation Voltage	V _{CE(SAT)}			0.5 1.2	V	I _F = 50mA, I _C = 1mA
DC Isolation Voltage	V _{ISO}	40 40			kV	
Rise Time	t _r		10 20		μs	V _{CC} = 5V, I _F = 16mA, R _L = 100Ω
Fall Time	t _f		10 20		μs	V _{CC} = 5V, I _F = 16mA, R _L = 100Ω

RECOMMENDED OPERATING CONDITIONS:

PARAMETER	SYMBOL	MIN	MAX	UNITS
Input Current, High Level	I _{FH}	16	50	mA
Supply Voltage	V _{CE}	5	10	V
Operating Temperature	T _A	-55	125	°C

SELECTION GUIDE

PART #	PART DESCRIPTION
66004-001	Transistor Output, Commercial
66004-101	Transistor Output, Screened
66004-002	Darlington Output, Commercial
66004-102	Darlington Output, Screened