66320 15 kV HIGH VOLTAGE, 6N134 TYPE HIGH SPEED ISOLATOR

OPTOELECTRONIC PRODUCTS DIVISION

09/18/2009

Features:

- 2 Mbd Transfer Rate
- 15 kVdc Isolation
- TTL compatible input and output
- Creepage Path: 0.965” min

Applications:

- High Voltage Isolation
- Voltage Level Shifting
- Grid Current Modulator
- Switching between power supplies
- Medical systems

DESCRIPTION

The ***66320*** high voltage isolator consists of an 850 nm LED optically coupled to a high speed, high gain inverting detector gate. The isolator output is TTL capable with switching propagation delays of 55 ns typical. The high voltage isolator has an operating free-air temperature range of -40°C to +100°C. The isolator is encased in a high temperature outer PPS housing.

ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Isolation Voltage (Input to Output) (Note 2) ..... 15 kVdc
Operating Free-Air Temperature Range ..... -40°C to +100°C
Storage Temperature ..... -40°C to +100°C
Lead Solder Temperature (10 second, 1.6mm from case) (Note 1) ..... 260°C

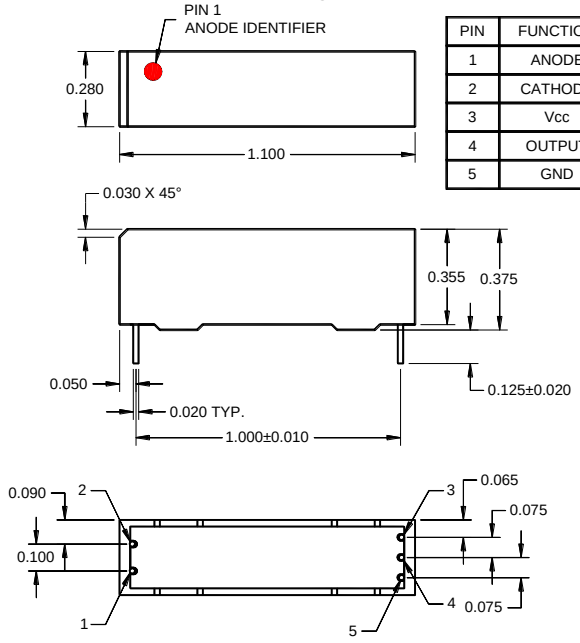
LED:

Peak Forward Input Current (2 μs duration) 300mA
Average Forward Input Current ..... 50 mA
Reverse Input Voltage ..... 3.0 V
Input Power Dissipation ..... 100 mW

Output IC:

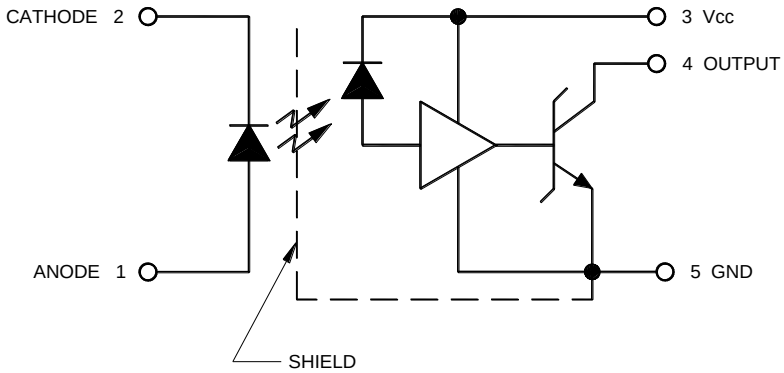
Supply voltage - V_{CC} ..... -0.5 V to 7.0 V (1 minute maximum)
Output Current - I_O ..... 25 mA
Output Power Dissipation ..... 40 mW
Output Voltage - V_O ..... 18 V

Package Dimensions



PIN	FUNCTION
1	ANODE
2	CATHODE
3	Vcc
4	OUTPUT
5	GND

Schematic Diagram



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
Input LED							
Input Forward Voltage	V_F		1.3	1.6	V	I_F = 20 mA	
Reverse Current	I_R			100	µA	V_R = 3.0 V	
Output IC							
High Level Output Current	I_{OH}		0.25	15	µA	V_{CC} = 5.25 V, V_{OH} = 18 V, I_F = 0 mA	
Low Level Output Voltage	V_{OL}		0.40	0.5	V	V_{CC} = 4.5 V, I_F = 10 mA I_{OL} (Sinking) = 8.0 mA	
High Level Supply Current	I_{CCH}		2.5	7	mA	V_{CC} = 5.25V, I_F = 0 mA	
Low Level Supply Current	I_{CCL}		6	10	mA	V_{CC} = 5.25 V, I_F = 10 mA	
Coupled Characteristics (V_{CC} = 5 V)							
Coupling Capacitance	$C_{I—O}$			2.0	pF	Input and Output leads shorted	
Propagation Delay Time To High Output Level	t_{PLH}		55	100	ns	V_{CC} = 5 V, R_L = 560 Ω, I_F = 10 mA, C_L = 15 pF	
Propagation Delay Time To Low Output Level	t_{PHL}		55	200	ns	V_{CC} = 5 V, R_L = 560 Ω, I_F = 10 mA, C_L = 15 pF	
Difference in Propagation Delays	t_{PHL} - t_{PLH}			100	ns		
Input – Output Isolation Voltage	V_{I-O}	15,000			V	I_{I-O} = 25 µA	2
LED Positive going Threshold Current	I_{F+}	0.9	4.0	10.0	mA	V_{CC} = 5.0 V, I_{OL} = 8.0 mA	

NOTES:
1) The duration can be extended to 10 seconds maximum when flow soldering. Otherwise 5 seconds with soldering iron.
2) Device considered a two terminal device with all Input pins (Anode and Cathode) shorted together and all Output pins (V_{CC}, GND and Output) shorted together.

SELECTION GUIDE

PART #	PART DESCRIPTION
66320-001	Commercial
66320-101	Screened