ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE3048
Optoisolator
TRIAC Driver Output

Description:

The NTE3048 consists of a gallium arsenide infrared emitting diode optically coupled to a silicon bilateral switch in an 6–Lead DIP type package. This device is designed for use in applications requiring isolated TRIAC triggering.

Features:

- Output Driver Designed for 240VAC Line
- V_{ISO} Isolation Voltage of 7500V Peak
- Standard 6–Lead Plastic DIP Package

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Infrared Emitting Diode

Reverse Voltage, V_R 3V

Continuous Forward Current, I_F 60mA

Total Power Dissipation (Negligible Power in TRIAC Driver, T_A = +25°C), P_D 100mW
Derate Above 25°C . . . . . 1.33mW/°C

Output Driver

Off–State Output Terminal Voltage, V_{DRM} 400V

Peak Repetitive Surge Current (PW = 1ms, 120pps), I_{TSM} 1.0A

Total Power Dissipation (T_A = +25°C), P_D 300mW
Derate Above 25°C . . . . . 4.0mW/°C

Total Device

Isolation Surge Voltage (Peak AC Voltage, 60Hz, 5sec Duration, Note 1), V_{ISO} 7500V

Total Power Dissipation (T_A = +25°C), P_D 330mW
Derate Above 25°C . . . . . 4.4mW/°C

Junction Temperature Range, T_J . . . . . –40° to +100°C

Ambient Operating Temperature Range, T_A . . . . . –40° to +85°C

Storage Temperature Range, T_{stg} . . . . . –40° to +150°C

Lead Temperature (During Soldering, 1/16” from Case, 10sec), T_L . . . . . +260°C

Note 1. Isolation surge voltage is an internal dielectric breakdown rating.

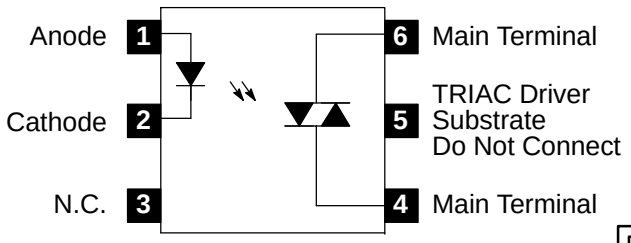
Electrical Characteristics: (T_A = +25°C unless otherwise specified)

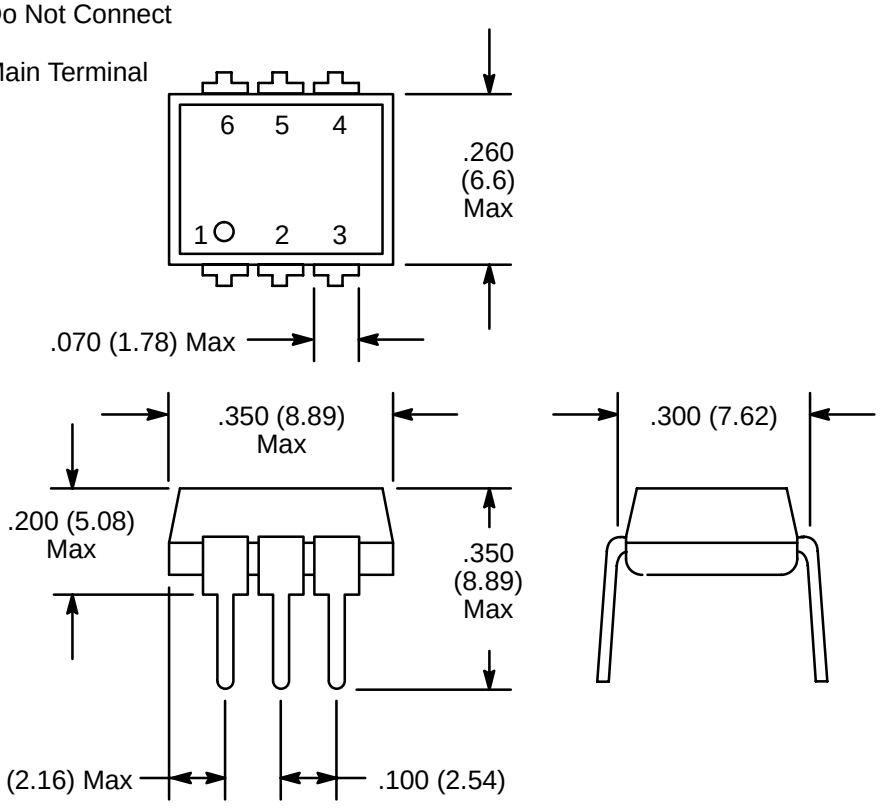
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input LED						
Reverse Leakage Current	I_R	V_R = 3V	–	0.05	100	μA
Forward Voltage	V_F	I_F = 10mA	–	1.15	1.5	V
Output Detector (I_F = 0 unless otherwise specified)						
Peak Blocking Current	I_{DRM}	Either Direction, V_{DRM} = 400V, Note 2	–	10	100	nA
Peak On–State Voltage	V_{TM}	Either Direction, I_{TM} = 100mA peak	–	1.8	3.0	V
Critical Rate of Rise of Off–State Voltage	dv/dt	Note 3	–	10	–	V/μs
Coupled						
LED Trigger Current (Current Required to Latch Output)	I_{FT}	Main Terminal Voltage = 3V, Note 4	–	8	15	mA
Holding Current	I_H	Either Direction	–	100	–	μA

Note 2. Test voltage must be applied within dv/dt rating.

Note 3. This is static dv/dt. Commutating dv/dt is a function of the load–driving thyristor(s) only.

Note 4. The NTE3048 is guaranteed to trigger at an I_F value less than or equal to max I_{FT}. Therefore, recommended operating I_F lies between max I_{FT} (15mA) and absolute max I_F (60mA).





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