



## NTE56015 thru NTE56018 TRIAC, 25 Amp

### **Description:**

The NTE56015 through NTE56018 series of TRIACs are high performance glass passivated PNPN devices in a TO220 type package designed for general purpose applications where moderate gate sensitivity is required.

### **Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$ unless otherwise specified)

Repetitive Peak Off-State Voltage ( $T_J = -40^\circ$  to  $+125^\circ\text{C}$ ,  $R_{GK} = 1\text{k}\Omega$ ),  $V_{DRM}$

|                |      |
|----------------|------|
| NTE56015 ..... | 200V |
| NTE56016 ..... | 400V |
| NTE56017 ..... | 600V |
| NTE56018 ..... | 800V |

On-State Current (All Conduction Angles,  $T_C = +85^\circ\text{C}$ ),  $I_T(\text{RMS})$  ..... 25A

Non-Repetitive On-State Current (Half Cycle),  $I_{TSM}$

|            |      |
|------------|------|
| 60Hz ..... | 260A |
| 50Hz ..... | 250A |

Fusing Current ( $t = 10\text{ms}$ ),  $I^2t$  ..... 312A<sup>2</sup>s

Peak Gate Current ( $t = 10\mu\text{s}$  Max),  $I_{GM}$  ..... 4A

Peak Gate Dissipation ( $t = 10\mu\text{s}$  Max),  $P_{GM}$  ..... 10W

Gate Dissipation ( $t = 20\text{ms}$  Max),  $P_{G(AV)}$  ..... 1W

Operating Junction Temperature Range,  $T_J$  .....  $-40^\circ$  to  $+125^\circ\text{C}$

Storage Temperature Range,  $T_{stg}$  .....  $-40^\circ$  to  $+125^\circ\text{C}$

Thermal Resistance, Junction-to-Case,  $R_{thJC}$  ..... 1.5K/W

Thermal Resistance, Junction-to-Ambient,  $R_{thJA}$  ..... 60K/W

Lead Temperature (During Soldering, 1.6mm from case, 10sec max),  $T_L$  .....  $+250^\circ\text{C}$

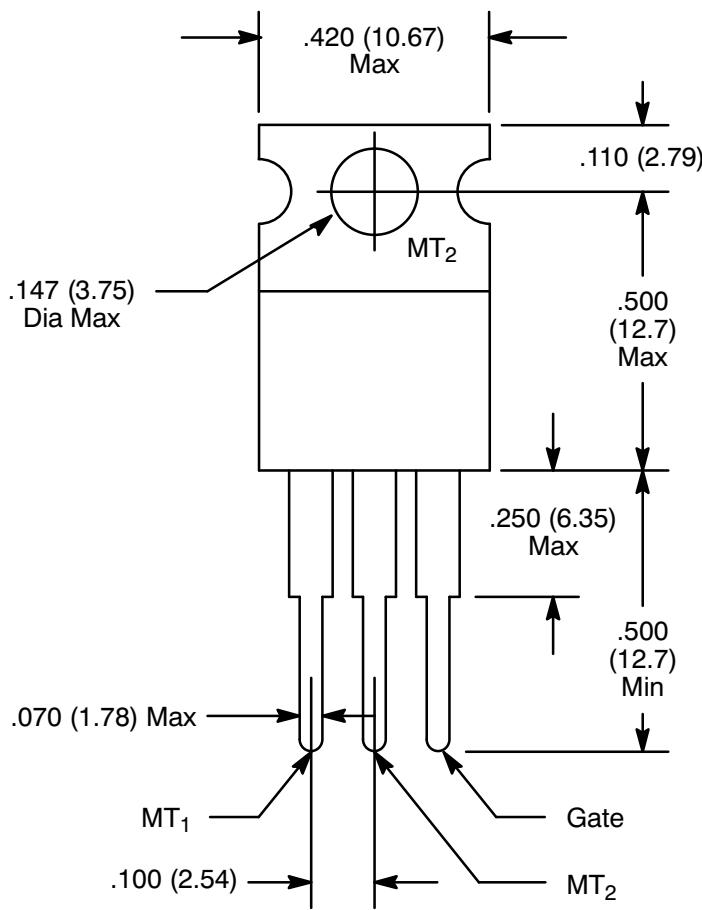
### **Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ unless otherwise specified)

| Parameter                  | Symbol      | Test Conditions   | Min | Typ | Max  | Unit             |
|----------------------------|-------------|---|-----|-----|------|------------------|
| Off-State Leakage Current  | $I_{DRM}$   | $V_D = V_{DRM}$ , $R_{GK} = 1\text{k}\Omega$ , $T_J = +25^\circ\text{C}$  | -   | -   | 10   | $\mu\text{A}$    |
|                            |             | $V_D = V_{DRM}$ , $R_{GK} = 1\text{k}\Omega$ , $T_J = +125^\circ\text{C}$ | -   | -   | 3    | mA               |
| On-State Voltage           | $V_T$       | $I_T = 37.5\text{A}$ , $T_J = +25^\circ\text{C}$                          | -   | -   | 1.4  | V                |
| On-State Threshold Voltage | $V_{T(TO)}$ | $T_J = +125^\circ\text{C}$  | -   | -   | 0.85 | V                |
| On-State Slope Resistance  | $r_T$       | $T_J = +125^\circ\text{C}$  | -   | -   | 13   | $\text{m}\Omega$ |

**Electrical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

| Parameter                        | Symbol    | Test Conditions   | Min | Typ | Max | Unit       |
|----------------------------------|-----------|---|-----|-----|-----|------------|
| Gate Trigger Current             | $I_{GT}$  | $V_D = 12\text{V}$ , Note 1   | -   | -   | 50  | mA         |
| Gate Trigger Voltage             | $V_{GT}$  | $V_D = 12\text{V}$ , All Quadrants  | -   | -   | 2.5 | V          |
| Holding Current                  | $I_H$     | $R_{GK} = 1\text{k}\Omega$  | -   | -   | 50  | mA         |
| Critical Rate-of-Rise            | $dv/dt$   | $V_D = 0.67 \times V_{DRM}$ , $R_{GK} = 1\text{k}\Omega$ , $T_J = +125^\circ\text{C}$ | 500 | -   | -   | V/ $\mu$ s |
| Critical Rate-of-Rise, Off-State | $dv/dt_C$ | $I_T = 25\text{A}$ , $di/dt = 11\text{A/ms}$ , $T_C = +85^\circ\text{C}$              | 5   | -   | -   | V/ $\mu$ s |

Note 1. For either polarity of gate voltage with reference to electrode MT<sub>1</sub>.



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