

## NTE598 Silicon Rectifier Ultra Fast, 600V, 8A

**Description:**

The NTE598 is a silicon rectifier in a 2-Lead TO220 type package designed for use in switching power supplies, inverters and as free wheeling diodes.

**Features:**

- Ultrafast 50ns Recovery Time
- 175°C Operating Junction Temperature
- Popular TO220 Package
- Epoxy meets UL94, V<sub>O</sub> @ 1/8"
- Low Forward Voltage
- Low Leakage Current
- High Temperature Glass Passivated Junction

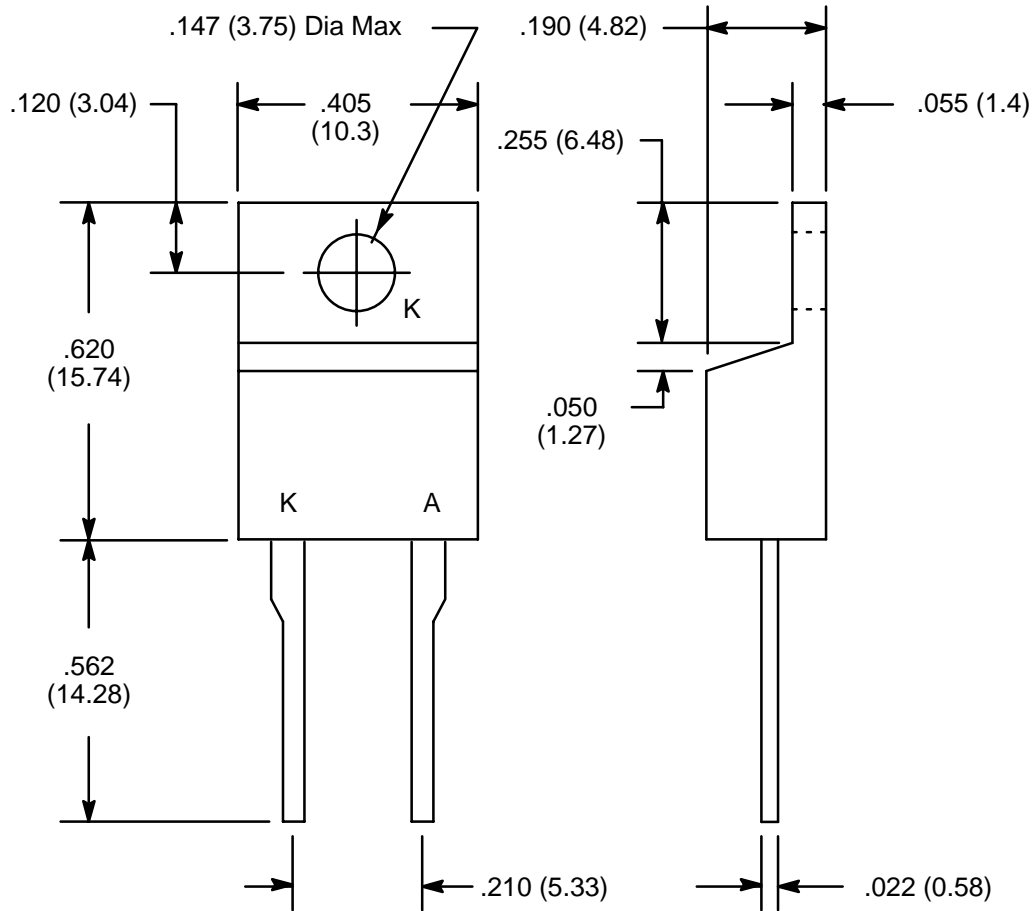
**Absolute Maximum Ratings:**

|  |                |
|--|----------------|
| Peak Repetitive Reverse Voltage, V <sub>RRM</sub> .....  | 600V           |
| Working Peak Reverse Voltage, V <sub>RWM</sub> .....   | 600V           |
| DC Blocking Voltage, V <sub>R</sub> .....  | 600V           |
| Average Rectified Forward Current (Total Device, V <sub>R</sub> = 600V, T <sub>C</sub> = +150°C), I <sub>F(AV)</sub> .....         | 8A             |
| Peak Repetitive Forward Current (V <sub>R</sub> = 600V, Square Wave, 20kHz, T <sub>C</sub> = +150°C), I <sub>FM</sub> .....        | 16A            |
| Non-Repetitive Peak Surge Current, I <sub>FSM</sub><br>(Surge applied at rated load conditions halfwave, single phase, 60Hz) ..... | 100A           |
| Operating Junction Temperature Range, T <sub>J</sub> .....   | -65° to +175°C |
| Storage Temperature Range, T <sub>stg</sub> .....  | -65° to +175°C |
| Maximum Thermal Resistance, Junction-to-Case, R <sub>thJC</sub> .....  | 2.0°C/W        |

**Electrical Characteristics:**

| Parameter                     | Symbol          | Test Conditions  | Min | Typ | Max | Unit |
|-------------------------------|-----------------|--|-----|-----|-----|------|
| Instantaneous Forward Voltage | V <sub>F</sub>  | i <sub>F</sub> = 8A, T <sub>C</sub> = +150°C, Note 1                 | -   | -   | 1.2 | V    |
|                               |                 | i <sub>F</sub> = 8A, T <sub>C</sub> = +25°C, Note 1                  | -   | -   | 1.5 | V    |
| Instantaneous Reverse Current | i <sub>R</sub>  | V <sub>R</sub> = 600V, T <sub>C</sub> = +150°C, Note 1               | -   | -   | 500 | μA   |
|                               |                 | V <sub>R</sub> = 600V, T <sub>C</sub> = +25°C, Note 1                | -   | -   | 10  | μA   |
| Reverse Recovery Time         | t <sub>rr</sub> | I <sub>F</sub> = 1A, di/dt = 50A/μs                                  | -   | -   | 60  | ns   |
|                               |                 | I <sub>F</sub> = 0.5A, i <sub>R</sub> = 1A, I <sub>REC</sub> = 0.25A | -   | -   | 50  | ns   |

Note 1. Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2.0%



**Note:** All dimensions are Max.