

## NTE6084 Silicon Rectifier Schottky Barrier

### **Description:**

The NTE6084 is a silicon power rectifier in a DO4 type package designed using the Schottky Barrier principle with a platinum barrier metal.

### **Features:**

- Guardring for Stress Protection
- Low Forward Voltage
- +150°C Operating Junction Temperature Capability
- Guaranteed Reverse Avalanche

### **Absolute Maximum Ratings:**

|                                                                                                                             |                |
|-----------------------------------------------------------------------------------------------------------------------------|----------------|
| Peak Repetitive Reverse Voltage, $V_{RRM}$ .....                                                                            | 45V            |
| Working Peak Reverse Voltage, $V_{RWM}$ .....                                                                               | 35V            |
| DC Blocking Voltage, $V_R$ .....                                                                                            | 45V            |
| Average Rectified Forward Current ( $V_R = 45V$ , $T_C = +105^\circ C$ ), $I_O$ .....                                       | 30A            |
| Non-Repetitive Peak Surge Current, $I_{FSM}$<br>(Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60Hz) ..... | 600A           |
| Peak Repetitive Reverse Surge Current (2.0 $\mu s$ , 1.0kHz), $I_{RRM}$ .....                                               | 2A             |
| Voltage Rate of Change ( $V_R = 45V$ ), $dv/dt$ .....                                                                       | 700V/ $\mu s$  |
| Peak Operating Junction Temperature (Forward Current Applied), $T_{J(pk)}$ .....                                            | +150°C         |
| Operating Junction Temperature Range, $T_J$ .....                                                                           | -55° to +150°C |
| Storage Temperature Range, $T_{stg}$ .....                                                                                  | -55° to +150°C |
| Maximum Thermal Resistance, Junction-to-Case, $R_{thJC}$ .....                                                              | 2.0°C/W        |

### **Electrical Characteristics:**

| Parameter                             | Symbol | Test Conditions                             | Min | Typ | Max  | Unit |
|---------------------------------------|--------|---------------------------------------------|-----|-----|------|------|
| Maximum Instantaneous Forward Voltage | $V_F$  | $i_F = 30A$ , $T_C = +125^\circ C$ , Note 1 | —   | —   | 0.55 | V    |
| Maximum Instantaneous Reverse Current | $i_R$  | $V_R = 35V$ , $T_C = +125^\circ C$ , Note 1 | —   | —   | 125  | mA   |
| Capacitance                           | $C_t$  | $V_R = 5V$ , $100kHz \leq f \leq 1MHz$      | —   | —   | 2000 | pF   |

Note 1. Pulse Test: Pulse Width = 300 $\mu s$ , Duty Cycle  $\leq 2\%$ .

