

NTE583 Silicon Rectifier Diode Schottky, RF Switch

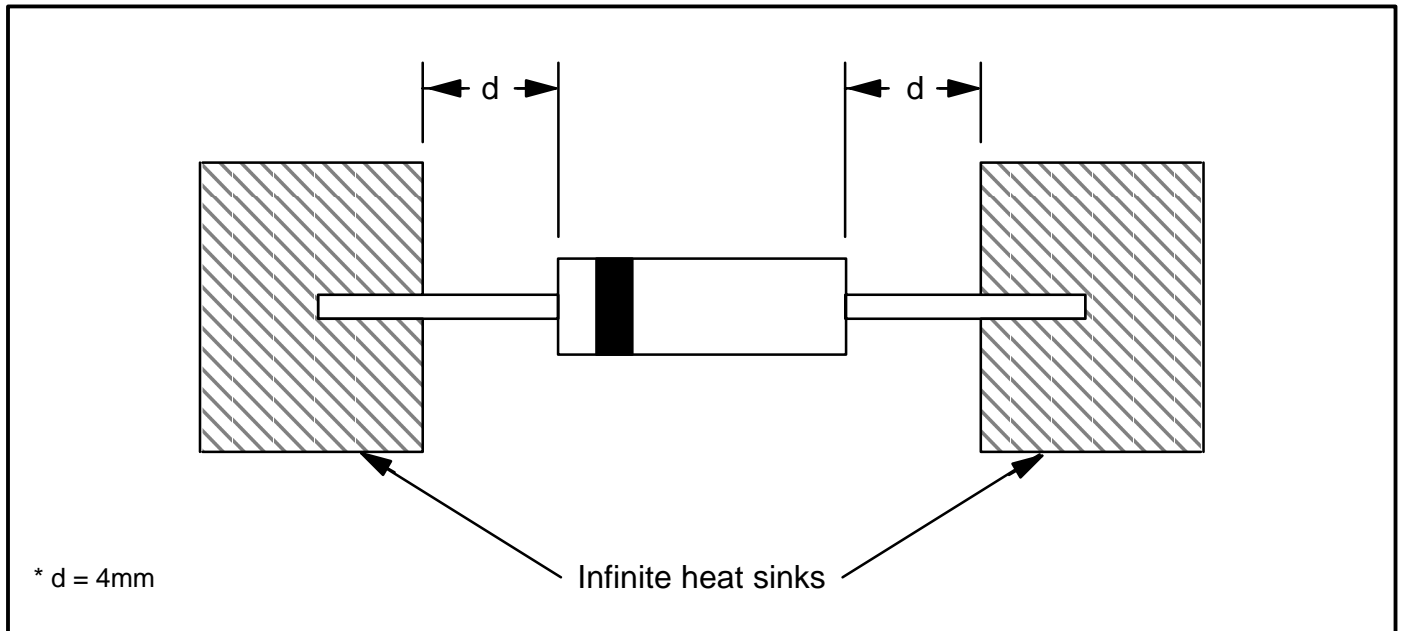
Description:

The NTE583 is a metal to silicon junction diode featuring high breakdown, low turn-on voltage and ultrafast switching. This device is primarily intended for high level UHF/VHF detection and pulse application with broad dynamic range.

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$, Limiting Values)

| | |
|--|-------------------------------------|
| Repetitive Peak Reverse Voltage, V_{RRM} | 70V |
| Forward Continuous Current (Figure 1), I_F | 15mA |
| Surge Non-Repetitive Forward Current ($t_p \leq 1\text{s}$, Figure 1), I_{FSM} | 50mA |
| Operating Junction Temperature Range, T_J | -65° to $+200^\circ\text{C}$ |
| Storage Temperature Range, T_{stg} | -65° to $+200^\circ\text{C}$ |
| Thermal Resistance, Junction-to-Ambient (Figure 1), R_{thJA} | 400°C/W |

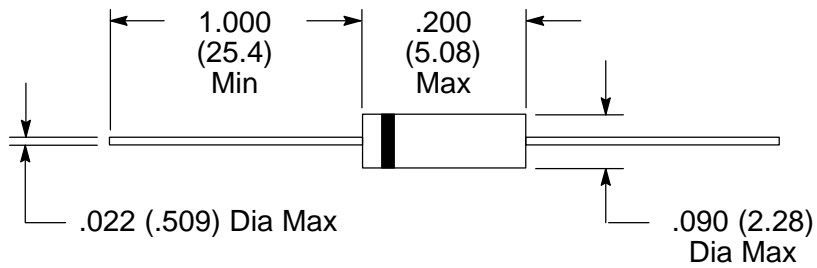
Figure 1



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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Units |
|--------------------------------|------------|--------------------------------------|-----|-----|------|---------------|
| Static Characteristics | | | | | | |
| Breakdown Voltage | $V_{(BR)}$ | $I_R = 10\mu\text{A}$ | 70 | – | – | V |
| Continuous Forward Voltage | $V_F(1)$ | $I_F = 1\text{mA}$ | – | – | 0.41 | V |
| | | $I_F = 15\text{mA}$ | – | – | 1 | V |
| Continuous Reverse Current | $I_R(1)$ | $V_R = 50\text{V}$ | – | – | 0.2 | μA |
| Dynamic Characteristics | | | | | | |
| Small Signal Capacitance | C | $V_R = 0, f = 1\text{MHz}$ | – | – | 2 | pF |
| Minority Carrier Life Time | τ | $I_F = 5\text{mA}$, Krakauer Method | – | – | 100 | ps |

Note 1. Pulse Test $t_p \leq 300\mu\text{s}$ $\delta < 2\%$



Color Band Denotes Cathode