



Micro Commercial Components



Micro Commercial Components  
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1N4148

500mW High Speed  
Switching Diode  
100 Volt

**Features**

- High Reliability
- Low Current Leakage
- Metalurgically Bonded Construction
- Moisture Sensitivity Level 1
- Marking : Cathode band and type number
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

**Maximum Ratings**

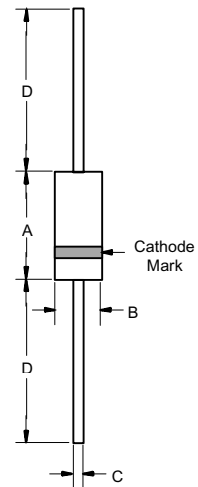
- Operating Temperature: -65°C to +175°C
- Storage Temperature: -65°C to +175°C
- Maximum Thermal Resistance: 300K/W Junction To Ambient

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

|   |           |                       |  |
|---|-----------|-----------------------|--|
| Reverse Voltage   | $V_R$     | 75V                   |  |
| Breakdown Voltage                                       | $V_{BR}$  | 100V                  | $I_R=100 \mu A$  |
| Average Forward Current                                 | $I_O$     | 150mA                 |  |
| Power Dissipation                                       | $P_{TOT}$ | 500mW                 |  |
| Junction Temperature                                    | $T_J$     | 175°C                 |  |
| Peak Forward Surge Current                              | $I_{FSM}$ | 2.0A                  | $t_p = 1.0 \mu s$  |
| Maximum Instantaneous Forward Voltage                   | $V_F$     | 1.0V                  | $I_{FM} = 10mA$  |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$     | 25nA<br>5.0µA<br>50µA | $V_R=20V; T_J = 25^\circ C$<br>$V_R=75V; T_J = 25^\circ C$<br>$V_R=20V; T_J = 150^\circ C$ |
| Maximum Junction Capacitance                            | $C_J$     | 4.0pF                 | Measured at 1.0MHz, $V_R=0V$   |
| Maximum Reverse Recovery Time                           | $T_{rr}$  | 4.0ns                 | $I_F=10mA; V_R = 6V$<br>$R_L=100\Omega$  |

\*Pulse test: Pulse width 300 µsec, Duty cycle 2%  
Note: 1. Lead in Glass Exemption Applied, see EU Directive Annex 7(C)-I.

DO-35



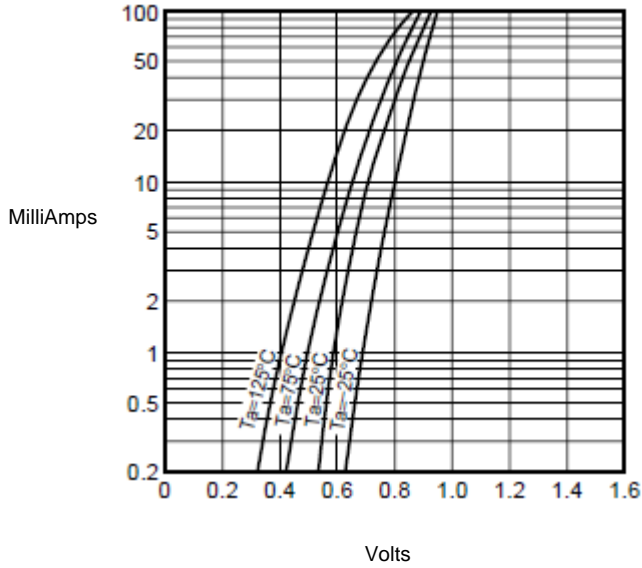
| DIM | DIMENSIONS |      |       |      | NOTE |
|-----|------------|------|-------|------|------|
|     | INCHES     |      | MM    |      |      |
|     | MIN        | MAX  | MIN   | MAX  |      |
| A   | ---        | .166 | ---   | 4.2  |      |
| B   | ---        | .079 | ---   | 2.00 |      |
| C   | ---        | .020 | ---   | .52  |      |
| D   | 1.000      | ---  | 25.40 | ---  |      |

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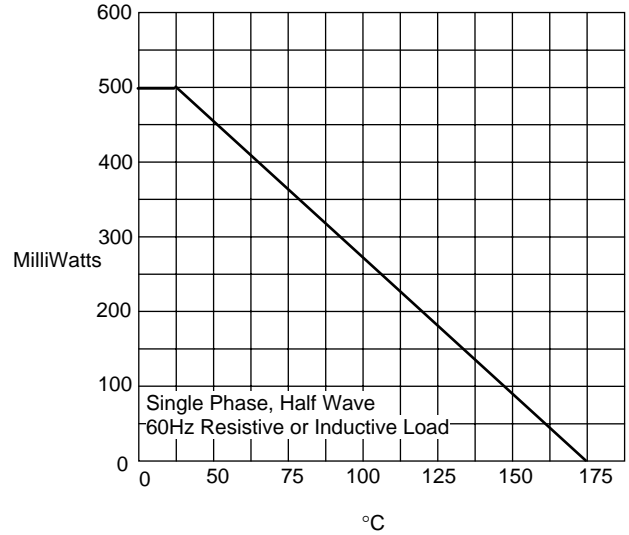
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Figure 1  
Typical Forward Characteristics



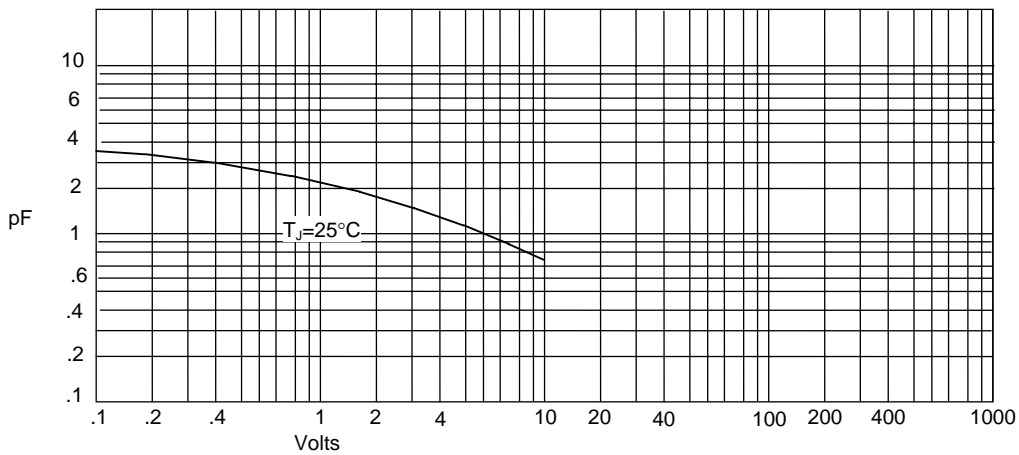
Instantaneous Forward Current - MilliAmperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Power Dissipation Derating Curve



Admissible Power Dissipation - MilliWatts versus  
Junction Temperature - °C

Figure 3  
Junction Capacitance



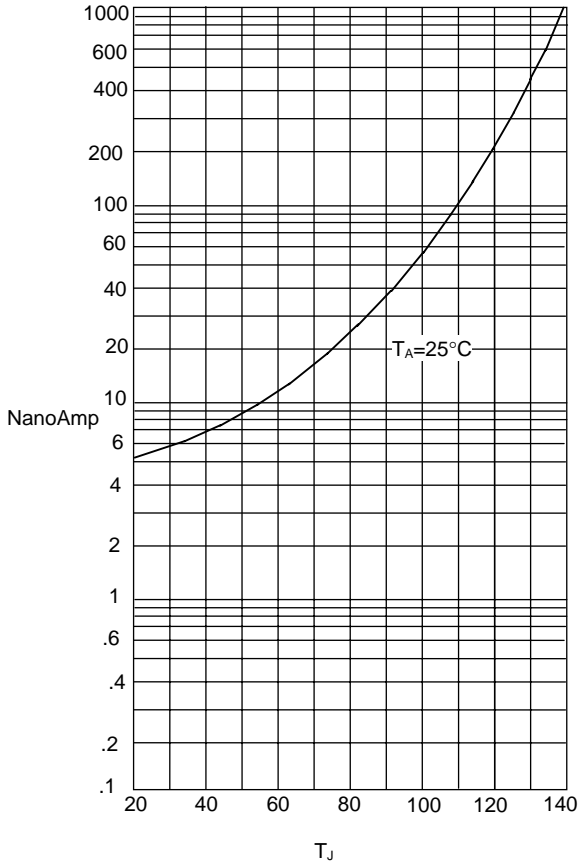
Junction Capacitance - pF versus  
Reverse Voltage - Volts

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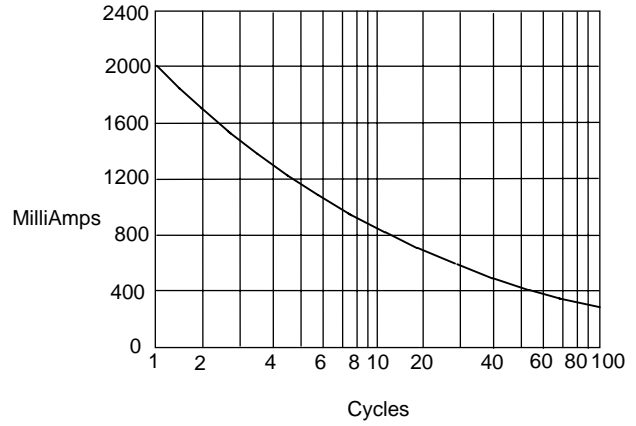
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Figure 4  
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - NanoAmperes versus Junction Temperature - °C

Figure 5  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus Number Of Cycles At 60Hz - Cycles



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### Ordering Information :

| Device         | Packing                      |
|----------------|------------------------------|
| Part Number-TP | Tape&Reel: 10Kpcs/Reel       |
| Part Number-AP | Ammo Packing: 5Kpcs/Ammo Box |
| Part Number-BP | Bulk: 100Kpcs/Carton         |

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