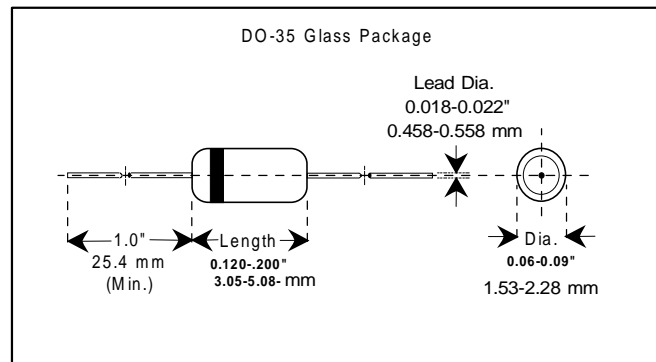


Use Advantages

Used as a general purpose rectifier in power supplies, or for clipping and steering applications.
 High performance alternative to small signal diodes where space does not permit use of power rectifiers.
 May be used in hostile environments where hermeticity and reliability are important i.e. (Military and Aero/Space). MIL-S- 19500/ 240 approvals. Available up to JANTXV-1 level.
 "S" level screening capability to Source Control Drawings.

Features

- Six Sigma quality
- Humidity proof glass
- Metallurgically bonded
- Thermally matched system
- No thermal fatigue
- High surge capability
- Sigma Bond™ plated contacts
- 100% guaranteed solderability
- (DO-213AA) SMD MELF commercial (LL) and MIL (UR-1) types available



| Absolute Maximum Ratings | Symbol | Value | Unit |
|---|-----------------|------------|--------------------|
| Power Dissipation at 3/8" from the body, $T_L = 75^\circ\text{C}$ | P_{tot} | 600 | mWatts |
| Average Forward Rectified Current at $T_L = 75^\circ\text{C}$ | I_{AV} | 400 | mAmps |
| Operating and Storage Temperature Range | $T_{O\&S}$ | -65 to 175 | $^\circ\text{C}$ |
| Thermal Impedance | $Z_{\theta JX}$ | 35 | $^\circ\text{C/W}$ |

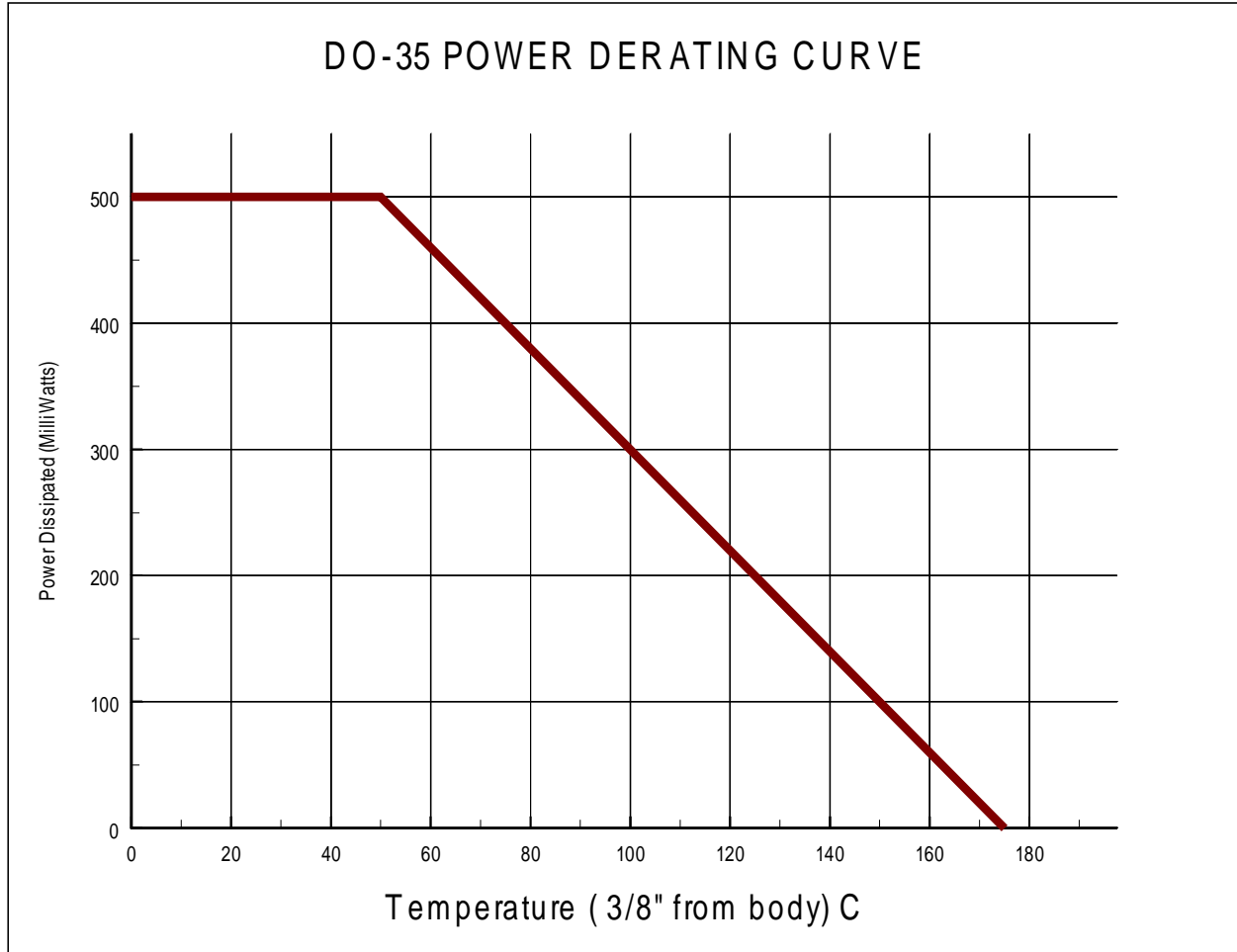
Detail Specifications

| Type | Reverse Voltage | Breakdown Voltage (MIN.) @ 100 μA | Maximum Average Rectified Current | | Forward Voltage Drop | Maximum Reverse Leakage Current | | Maximum Surge Current | Typical Junction Capacitance |
|----------|-----------------|--|-----------------------------------|--------------------------------|----------------------------------|---------------------------------------|--|------------------------|------------------------------|
| | (V_R) | (B_V) | (I_O) 25 $^\circ\text{C}$ | (I_O) 150 $^\circ\text{C}$ | (V_F) @ $I_F = 400\text{mA}$ | (I_R) @ V_R 25 $^\circ\text{C}$ | (I_R) @ V_R 100 $^\circ\text{C}$ | (I_{FSM}) (NOTE 1) | @ -12V (C_O) |
| | Volts | Volts | Amps | Amps | Volts | μA | μA | Amps | pF |
| 1N645,-1 | 225 | 275 | 0.4 | 0.15 | 1.0 | 0.2 | 15 | 3 | 9 |
| 1N646,-1 | 300 | 360 | 0.4 | 0.15 | 1.0 | 0.2 | 15 | 3 | 9 |
| 1N647,-1 | 400 | 480 | 0.4 | 0.15 | 1.0 | 0.2 | 20 | 3 | 9 |
| 1N648,-1 | 500 | 600 | 0.4 | 0.15 | 1.0 | 0.2 | 20 | 3 | 9 |
| 1N649,-1 | 600 | 720 | 0.4 | 0.15 | 1.0 | 0.2 | 25 | 3 | 9 |

Note 1: Surge Current @ $T_A = +25^\circ\text{C}$ to $+150^\circ\text{C}$, for 1 Second

For MELF DO-213AA surface mount package, replace "1N" prefix with "LL" for commercial.

DO-35 DERATING (175 C Tj)



Silicon Rectifier Diodes

1N645-1 thru 1N649-1

