FAIRCHILD SEMICONDUCTOR®

# 1N5400 - 1N5408

### Features

- 3.0 ampere operation at $T_A$ = 75°C with no thermal runaway.
- High current capability.
- Low leakage.

**DO-201AD**
COLOR BAND DENOTES CATHODE

## General Purpose Rectifiers

### Absolute Maximum Ratings*

$T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | Value | | | | | | | | | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5400 | 5401 | 5402 | 5403 | 5404 | 5405 | 5406 | 5407 | 5408 | |
| $V_{RRM}$ | Maximum Repetitive Reverse Voltage | 50 | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current, .375 " lead length @ $T_A$ = 75°C | 3.0 | | | | | | | | | A |
| $I_{FSM}$ | Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave | 200 | | | | | | | | | A |
| $T_{stg}$ | Storage Temperature Range | -55 to +150 | | | | | | | | | °C |
| $T_J$ | Operating Junction Temperature | -55 to +150 | | | | | | | | | °C |

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $P_D$ | Power Dissipation | 6.25 | W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 20 | °C/W |

### Electrical Characteristics

$T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | Device | | | | | | | | | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5400 | 5401 | 5402 | 5403 | 5404 | 5405 | 5406 | 5407 | 5408 | |
| $V_F$ | Forward Voltage @ 3.0 A | 1.2 | | | | | | | | | V |
| $I_{rr}$ | Maximum Full Load Reverse Current, Full Cycle $T_A$ = 105°C | 0.5 | | | | | | | | | mA |
| $I_R$ | Reverse Current @ rated $V_R$ $T_A$ = 25°C<br>$T_A$ = 100°C | 5.0<br>500 | | | | | | | | | uA<br>uA |
| $C_T$ | Toatal Capacitance $V_R$ = 4.0 V, f = 1.0 MHz | 30 | | | | | | | | | pF |

## Typical Characteristics

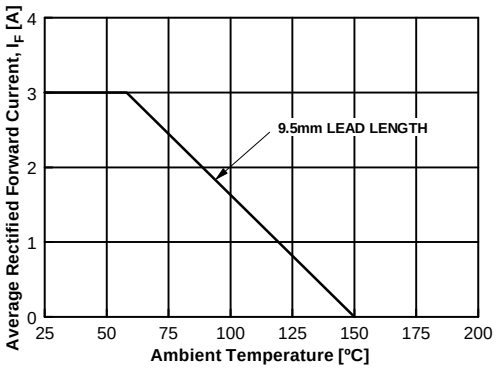


**Figure 1. Forward Current Derating Curve**

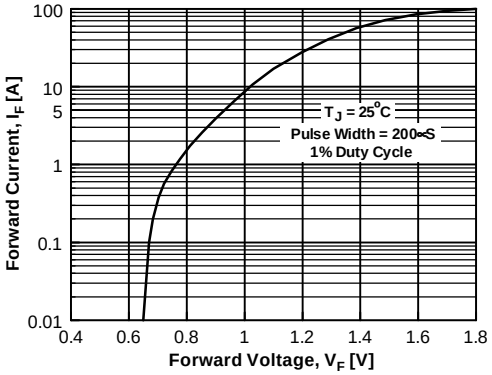


**Figure 2. Forward Voltage Characteristics**

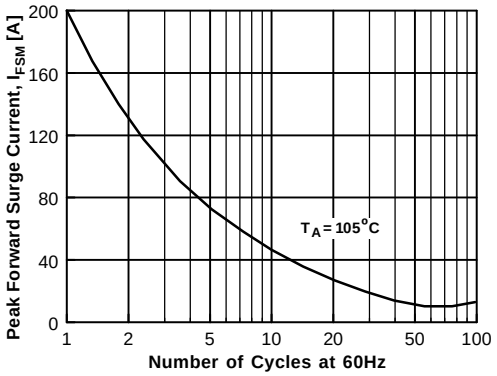


**Figure 3. Non-Repetitive Surge Current**

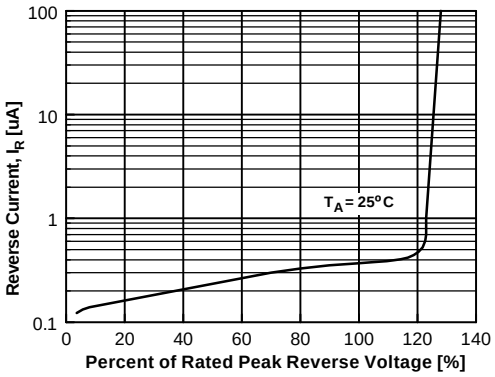


**Figure 4. Reverse Current vs Reverse Voltage**

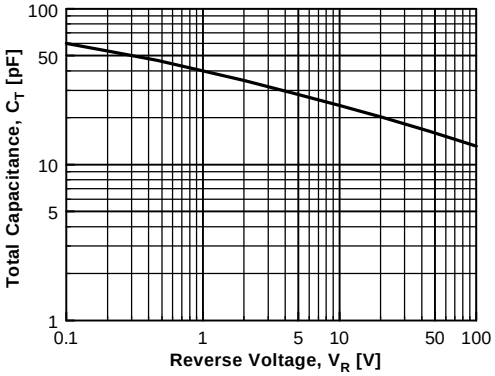


**Figure 5. Total Capacitance**

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