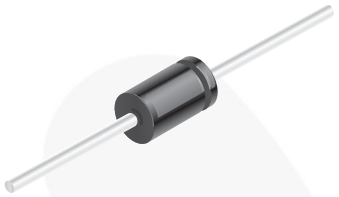
FAIRCHILD SEMICONDUCTOR®

August 2013

1N5393 / 1N5397
General-Purpose Rectifiers

Features

- 1.5 A Operation at T_A = 75°C with No Thermal Runaway
- High Current Capability
- Low Leakage



DO-15
Color Band Denotes Cathode

Absolute Maximum Ratings(1)

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value		Units
		1N5393	1N5397	
V_{RRM}	Peak Repetitive Reverse Voltage	200	600	V
$I_{F(AV)}$	Average Rectified Forward Current .375-inch Lead Length at T_A = 75°C	1.5		A
I_{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine Wave	50		A
T_{STG}	Storage Temperature Range	-55 to +150		°C
T_J	Operating Junction Temperature	-55 to +150		°C

Note:

1. 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	4.8	W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead(2)	26	°C/W

Note:

2. Mounted on 0.375 inch (9.5 mm) PCB.

Electrical Characteristics

T_A = 25°C unless otherwise noted.

Symbol	Parameter		Value		Units
			1N5393	1N5397	
V_F	Forward Voltage at 1.5 A		1.4		V
I_R	Reverse Leakage at Rated V_R	T_A=25°C	5.0		µA
		T_A=100°C	300		µA
C_T	Total Capacitance V_R = 4.0 V, f = 1.0 MHz		25		pF

Typical Performance Characteristics

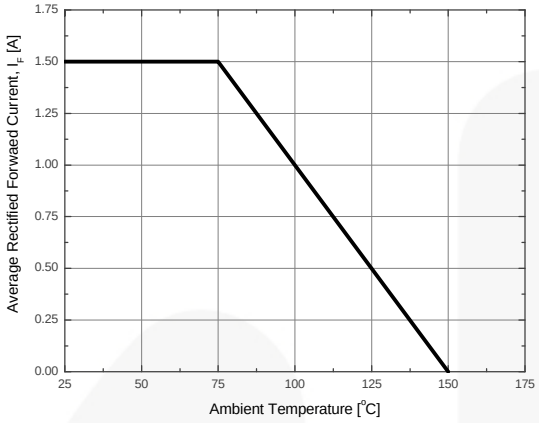


Figure 1. Forward Current Derating Curve

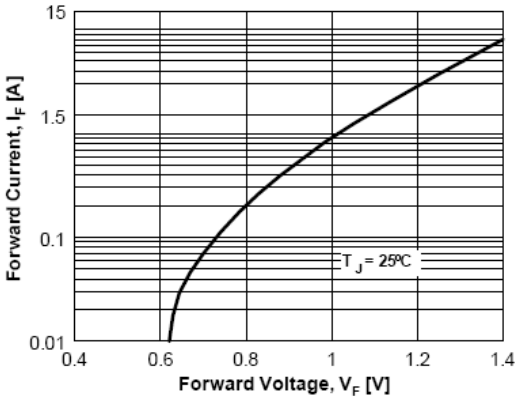


Figure 2. Forward Voltage Characteristics

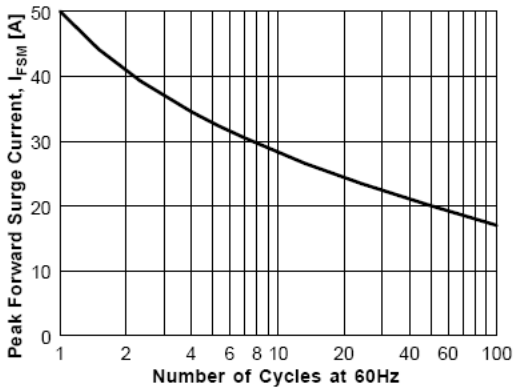


Figure 3. Non-Repetitive Surge Current

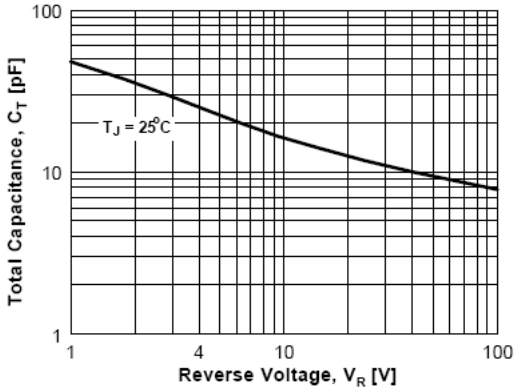


Figure 4. Total Capacitance

Physical Dimensions

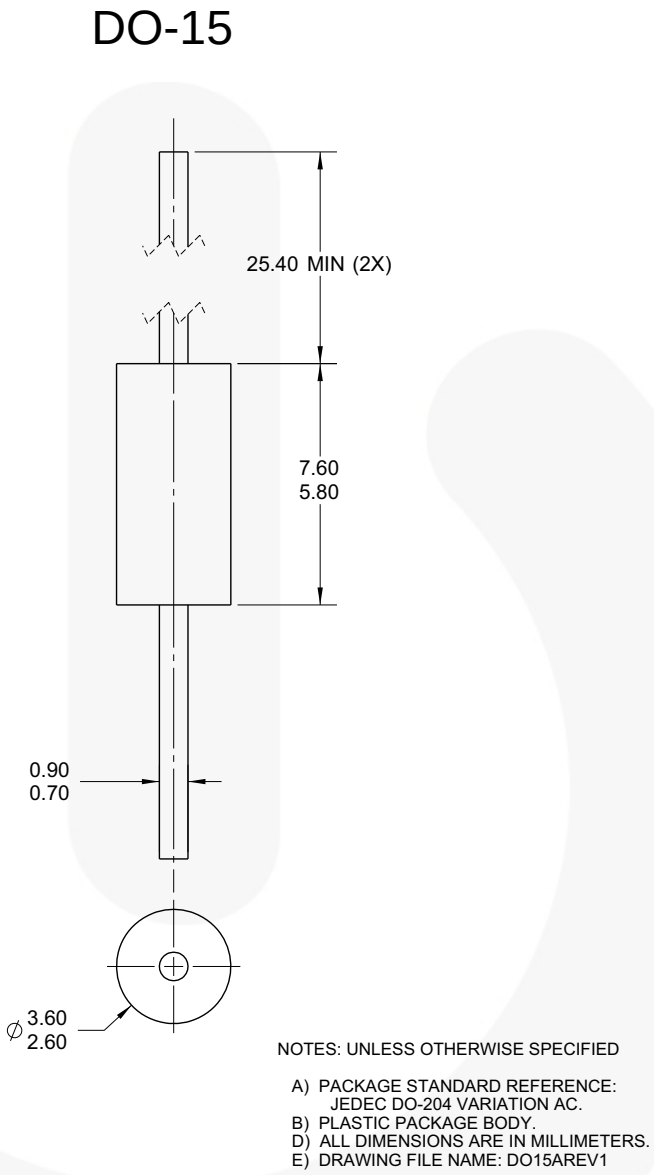


Figure 5. AXIAL LEADED, JEDEC DO204, VARIATION AC

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