



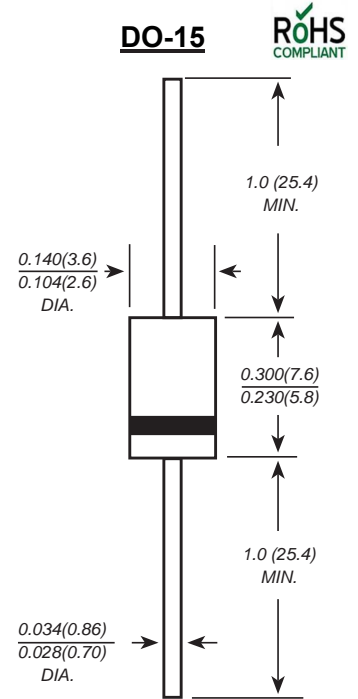
FAST RECOVERY RECTIFIERS

Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Idea for printed circuit board
- ◆ Fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed 250 °C/10 seconds at terminals

Mechanical Data

Case : JEDEC DO-15 Molded plastic body
Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
Polarity : Polarity symbol marking on body
Mounting Position : Any
Weight : 0.014 ounce, 0.40 grams



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| Parameter | SYMBOLS | FR151 | FR152 | FR153 | FR154 | FR155 | FR156 | FR157 | UNITS |
|---|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------------|
| | | MDD FR151 | MDD FR152 | MDD FR153 | MDD FR154 | MDD FR155 | MDD FR156 | MDD FR157 | |
| Maximum repetitive peak reverse voltage | V_{RMM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current at $T_A=75^\circ\text{C}$ | $I_{(AV)}$ | 1.5 | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 60 | | | | | | | A |
| Maximum instantaneous forward voltage at 1.5A | V_F | 1.30 | | | | | | | V |
| Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$ | I_R | 5.0 50.0 | | | | | | | μA |
| Maximum reverse recovery time (NOTE 1) | t_{rr} | 150 | | | 250 | | 500 | | ns |
| Typical junction capacitance (NOTE 2) | C_J | 30.0 | | | | | | | pF |
| Typical thermal resistance (NOTE 3) | $R_{\theta JA}$ | 50.0 | | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating junction and storage temperature range | T_J, T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ |

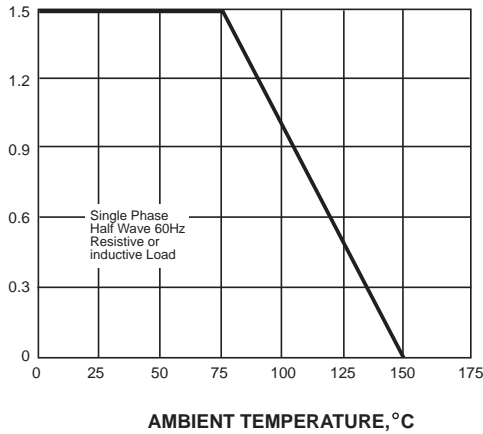
Note: 1. Reverse recovery condition $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



Ratings And Characteristic Curves

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

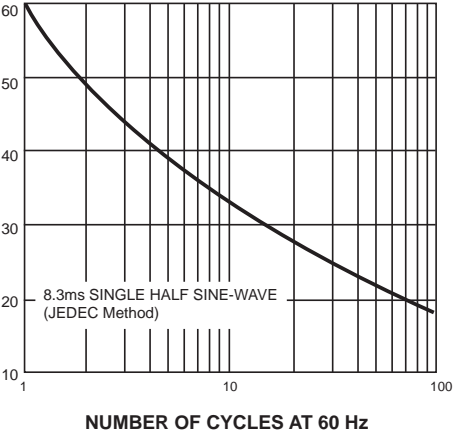
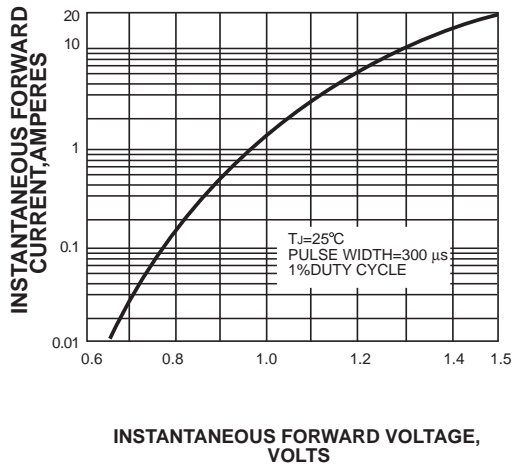


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

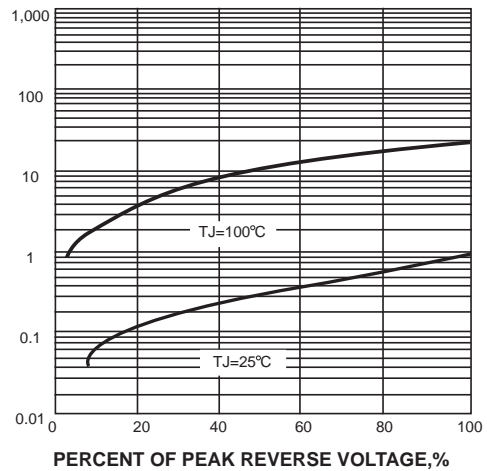
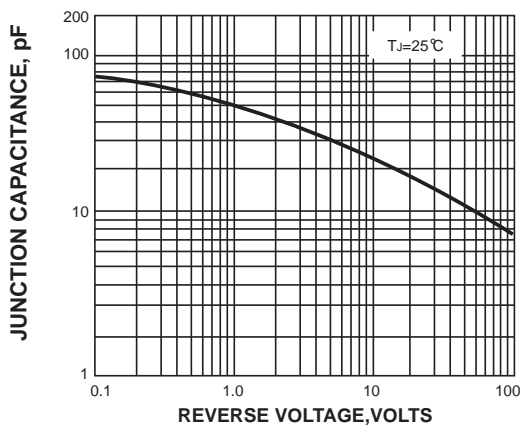
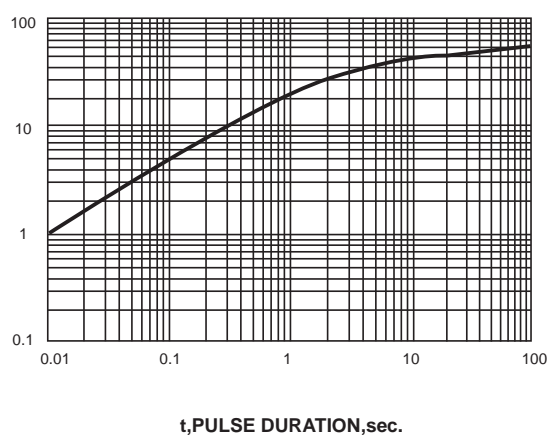


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.