



FR151 THRU FR157

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.5 Ampere

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

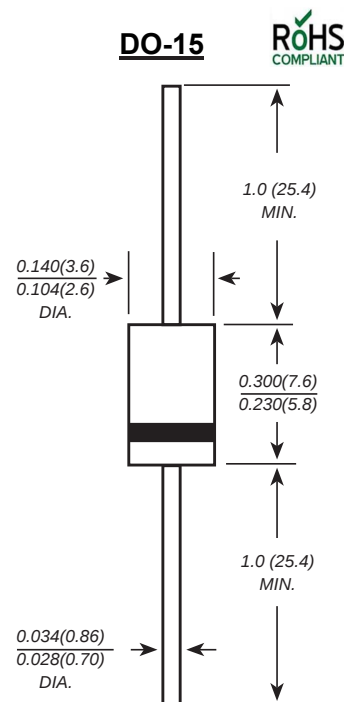
Case : JEDEC DO-15 Molded plastic body

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
Marking Code		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℃	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℃ at rated DC blocking voltage T _A =100℃	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 _{θJA}	50.0							℃/W
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +150							℃

Note: 1. Reverse recovery condition $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $t_{rr}=0.25\text{A}$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

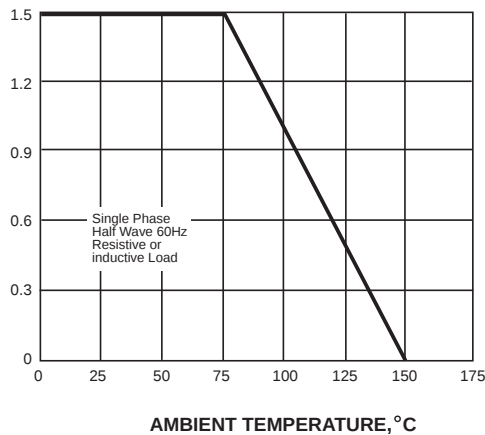
3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



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

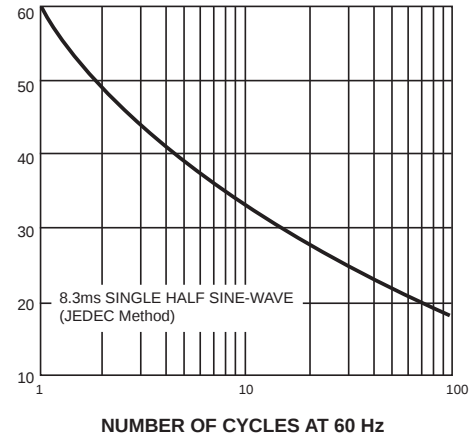
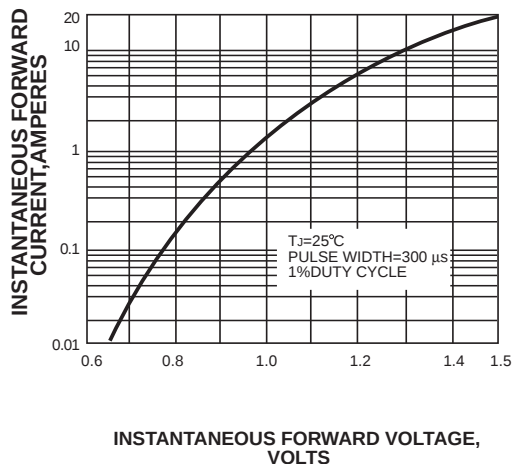


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

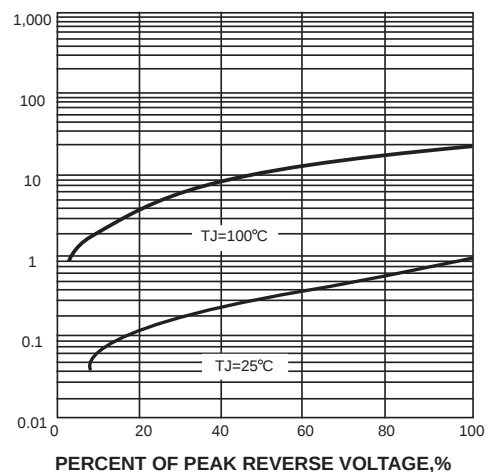
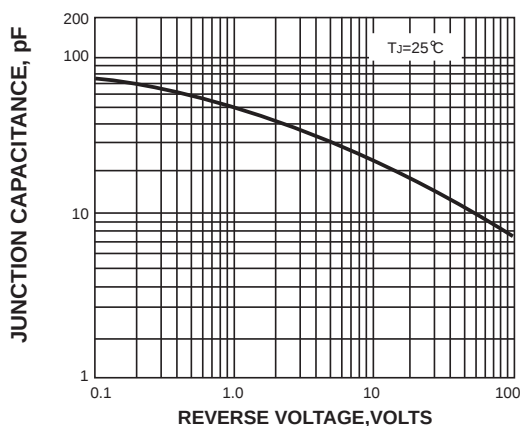
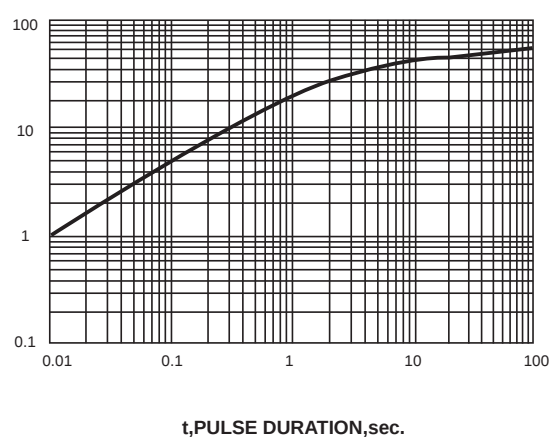


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.