Pb Free Plating Product

FR151 thru FR157

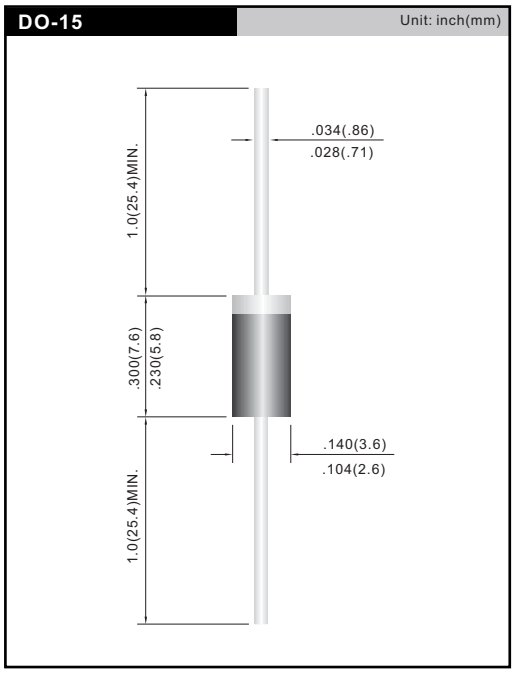
FAST SWITCHING PLASTIC RECTIFIER DIODES

Features

- High current capability.
- 1.5 ampere operation at T_A=50° C with no thermal runaway.
- Low leakage.

Mechanical Data

- **Case:** Molded plastic, DO-15
- **Terminals:** Plated axial leads, solderable per MIL-STD-202, method 208
- **Polarity:** Color band denotes cathode
- **Mounting Position:** Any



Absolute Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz. resistive or inductive load. For capacitive load, derate current by 20%.

	Symbols	FR151	FR152	FR153	FR154	FR155	FR156	FR157	Units
Maximum repetitive peak reverse voltage	V_{RRM}	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 375"(9.5mm) lead length at T_A = 55 °C	$I_{(AV)}$	1.5							A
Peak forward surge current I_{FM} (surge) 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	50							A
Maximum forward voltage at 1.5A DC	V_F	1.3							V
Maximum reverse current T_J = 25 °C at rated DC blocking voltage T_J = 100°C	I_R	5 500							μA
Typical junction capacitance (Note 1)	C_J	25							pF
Typical thermal resistance (Note 3)	$R_{\theta JL}$	45							°C/W
Maximum reverse recovery time(Note 2)	T_{rr}	150	150	150	150	250	500	500	ns
Operating and storage temperature range	T_J ,T_S	-55 to +150							°C

Notes:

(1) Measured at 1MHz and applied reverse voltage of 4 VDC.

(2) Reverse recovery test conditions: I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A.

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

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

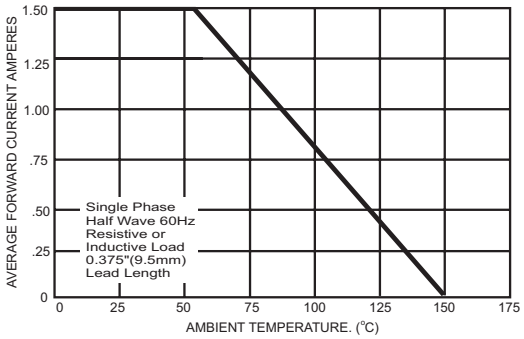


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

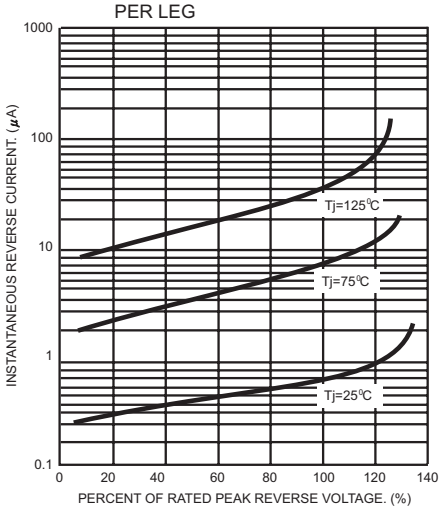


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

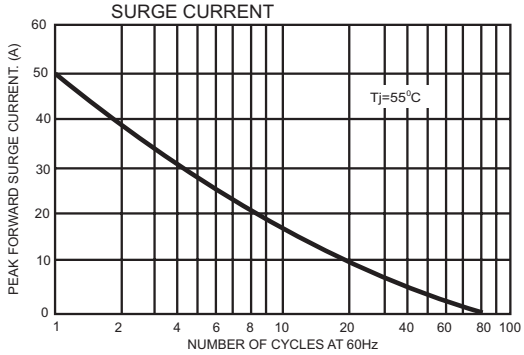


FIG.4- TYPICAL JUNCTION CAPACITANCE

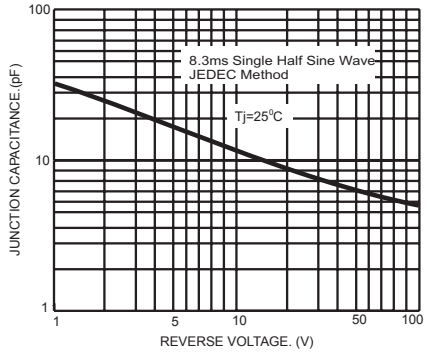


FIG.5- TYPICAL FORWARD CHARACTERISTICS

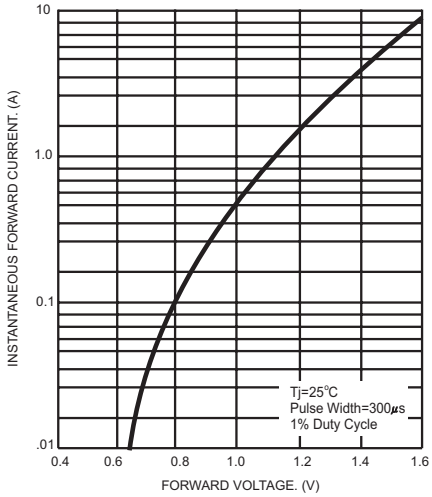


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM