

FR251 thru FR257

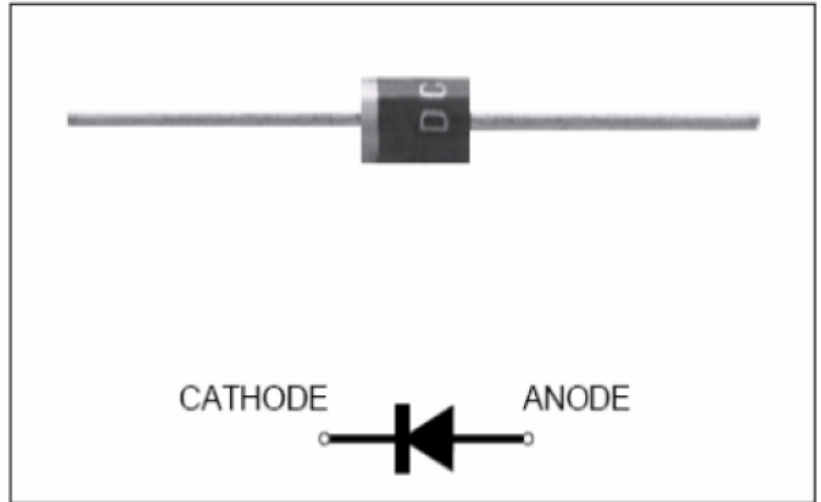
1.Feature & Dimensions

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * High temperature metallurgically bonded construction
- * Deffused junction
- * Capable of meeting environmental standards of MIL-S-19500
- * 2.5 A operation at TA=55°C with no thermal runaway
- * For use in high frequency rectifier circuits
- * Fast switching for high efficiency
- * Typical IR less than 1.0μA
- * High temperature soldering guaranteed:
260°C/10 seconds
- * 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Fast Switching Rectifiers

Reverse Voltage 50 to 1000V

Forward Current 2.5A



2.Mechanical Data

- Case:** JEDEC R-3, molded plastic body
- Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity:** Color band denotes cathode end
- Mounting Position:** Any
- Weight:** 0.015 oz., 0.40 g
- Handling precautin:**None

We declare that the material of product compliance with RoHS requirements.

3.Electrical Characteristic

Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	FR 251	FR 252	FR 253	FR 254	FR 255	FR 255P	FR 256	FR 257	FR 257P	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	600	800	1000	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	420	560	700	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	600	800	1000	1000	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$	$I_{F(AV)}$	2.5									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150									A
Maximum full load reverse current, full cycle average,0.375"(9.5mm) lead lengths at $T_A = 55^\circ\text{C}$	$I_{R(AV)}$	100									μA
Typical thermal resistance (Note 2)	$R_{\theta JA}$	45									°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-50 to +150									°C

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	FR 251	FR 252	FR 253	FR 254	FR 255	FR 255P	FR 256	FR 257	FR 257P	Unit
Maximum instantaneous forward voltage at 2.5A	V_F	1.3									V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	I_R	5.0 200									μA
Typical reverse recovery time (Note 1)	t_{rr}	150			250	150	500	250			ns
Typical junction capacitance at 4.0V, 1MHz	C_J	15									PF

NOTES:

1. $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$
2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

4. Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

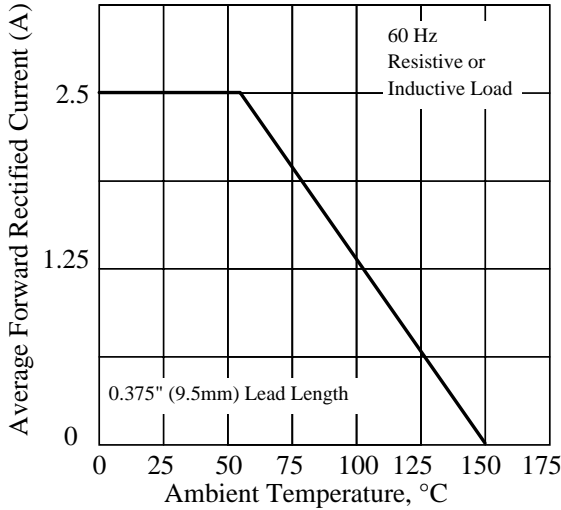


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

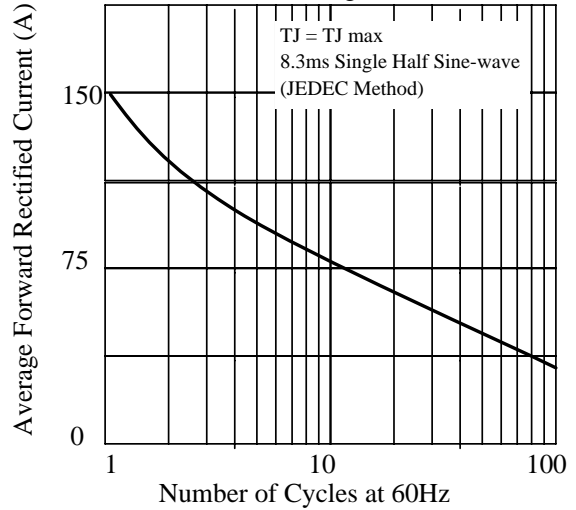


Fig. 3 - Typical Instantaneous Forward Characteristics

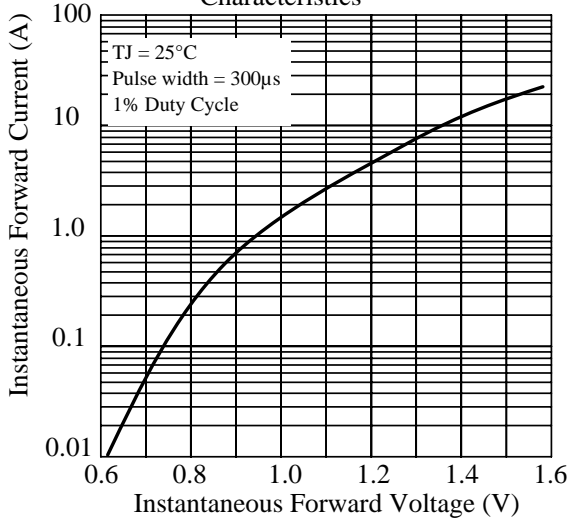


Fig. 4 - Typical Reverse Characteristics

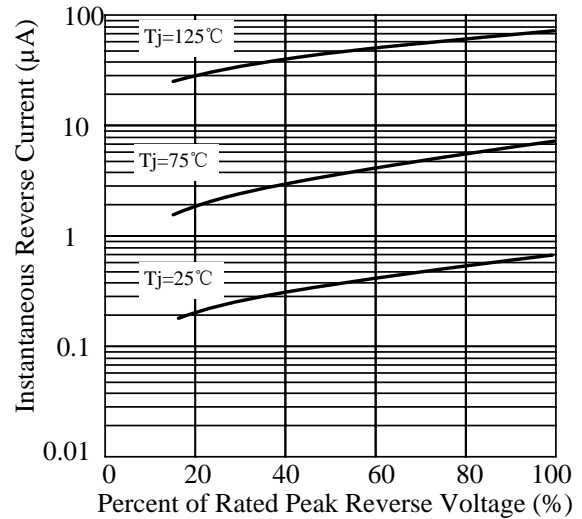


Fig. 5 - typical transient thermal impedance

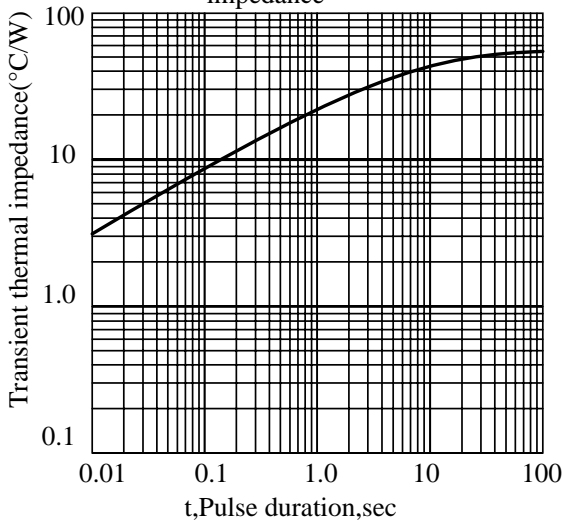
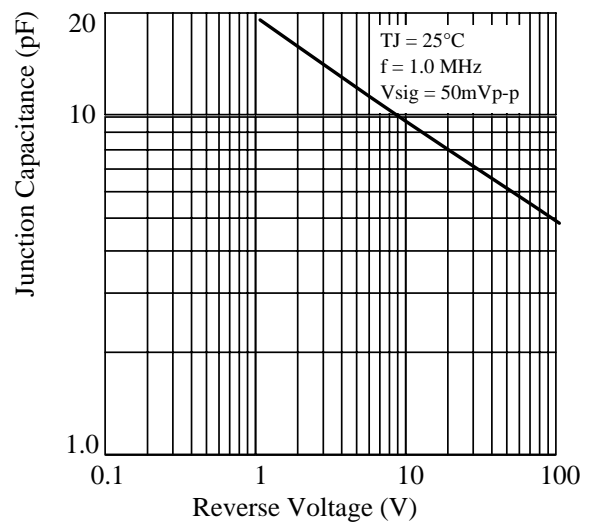


Fig. 6 - Typical Junction Capacitance



5.Package Dimensions in inches and (millimeters)
