FR251G THRU FR257G

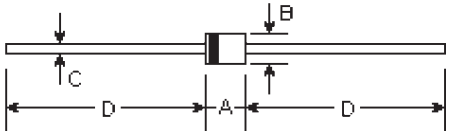
GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

Reverse Voltage - 50 to 1000 Volts
Forward Current - 2.5 Amperes

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing Flame retardant epoxy molding compound
- Glass passivated junction in R-3 package
- 2.5 ampere operation at T_A=55℃ with no thermal runaway
- Fast switching for high efficiency

R-3



Mechanical Data

- **Case:** Molded plastic, R-3
- **Terminals:** Axial leads, solderable per MIL-STD-202, method 208
- **Polarity:** Band denotes cathode
- **Mounting Position:** Any
- **Weight:** 0.021 ounce, 0.60 gram

DIMENSIONS					
DIM	inches		mm		Note
	Min.	Max.	Min.	Max.	
A	0.138	0.161	3.50	4.10	
B	0.138	0.161	3.50	4.10	ϕ
C	0.040	0.043	1.0	1.10	ϕ
D	1.000	-	25.40	-	

Maximum Ratings and Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.

	Symbols	FR 251G	FR 252G	FR 253G	FR 254G	FR 255G	FR 256G	FR 257G	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_A=55℃	$I_{(AV)}$	2.5							Amps
Peak forward surge current, I_{FM} (Surge): 8.3mS single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method)	I_{FSM}	70.0							Amps
Maximum forward voltage @2.5A, 25℃	V_F	1.3							Volts
Maximum DC reverse current, T_J=25℃ @ rated reverse voltage T_J=125℃	I_R	5.0 300.0							μ A
Reverse recovery time (Note 1)	T_{rr}	150				250	500		nS
Typical junction capacitance (Note 2)	C_J	35.0							ρ F
Typical thermal resistance (Note 3)	$R_{\theta JA}$	22.0							℃/W
Operating and storage temperature range	T_J, T_{STG}	-55 to +150							℃

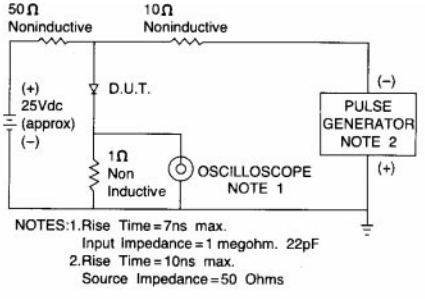
Notes:

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

(2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts

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

RATINGS AND CHARACTERISTIC CURVES



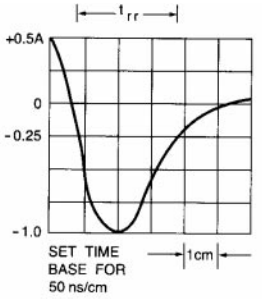


Fig. 1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

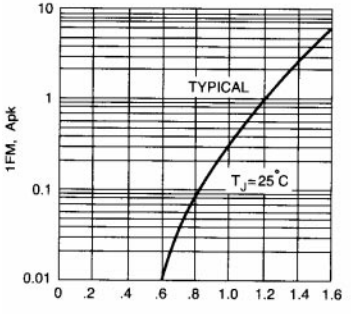


Fig. 2 – FORWARD CHARACTERISTICS

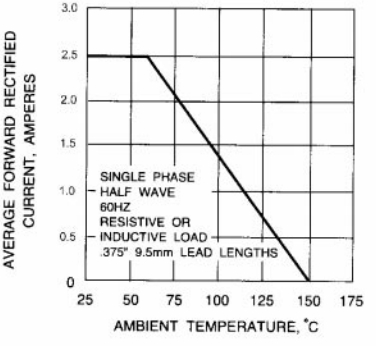


Fig. 3 – FORWARD CURRENT DERATING CURVE

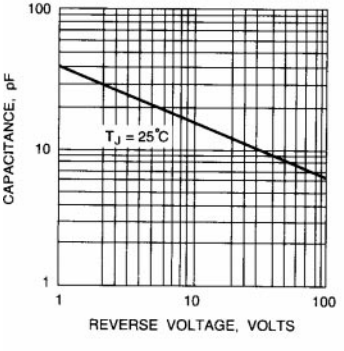


Fig. 5 – PEAK FORWARD SURGE CURRENT

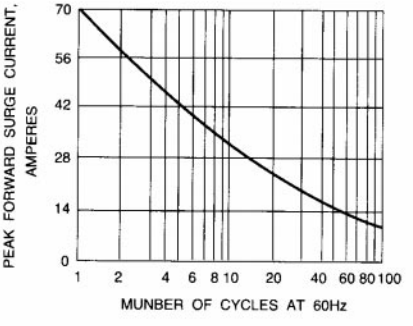


Fig. 4 – TYPICAL JUNCTION CAPACITANCE
vs. REVERSE VOLTAGE