



FAST RECOVER RECTIFIER

FR251 THRU FR257

VOLTAGE RANGE
CURRENT

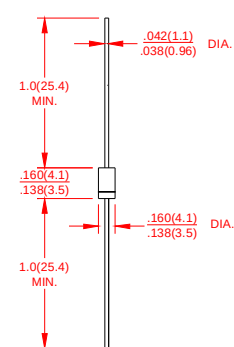
50 to 1000 Volts
2.5Ampere

FEATURES

- Low cost construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
260°C/10 seconds/.375" (9.5mm) lead length at 5 lbs (2.3kg) tension

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.042ounce, 1.19 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 derate current by 20%

		SYMBOLS	FR 251	FR 252	FR 253	FR 254	FR 255	FR 256	FR 257	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 = 75 °C		I _(AV)	2.5							Amp
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)		I _{FSM}	100							Amps
Maximum Instantaneous Forward Voltage @ 2.5A		V _F	1.3							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	T _A = 25 °C	I _R	5.0							μA
	T _A = 100 °C		500							
Maximum Reverse Recovery Time (Note 3) T _J =25 °C		trr	150				250	500		ns
Typical Junction Capacitance (Note 1)		C _J	60							pF
Typical Thermal Resistance (Note 2)		R _{θJA}	30							°C/W
Operating Junction Temperature Range		T _J	(-55 to +150)							°C
Storage Temperature Range		T _{STG}	(-55 to +150)							°C

Notes:

1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0Volts.
2. Thermal Resistance from junction to Ambient at .375" (9.5mm) lead length, P.C. board mounted.
3. Reverse Recovery Test Conditions: $I_f = 0.5\text{mA}$, $I_r = 1.0\text{mA}$, $t_{rr} = 0.25\text{A}$



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RATING AND CHARACTERISTIC CURVES FR251 THRU FR257

FIG.1-TYPICAL FORWARD CURRENT
DERATING CURVE

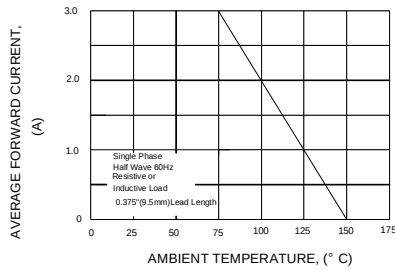


FIG.2-MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT

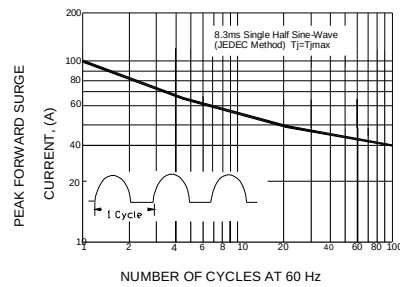


FIG.3-TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

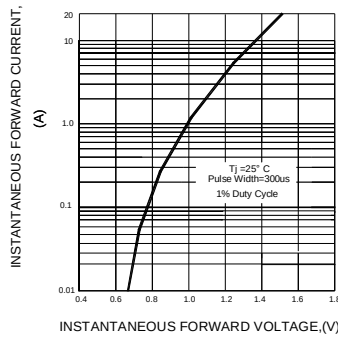


FIG.4-TYPICAL REVERSE
CHARACTERISTICS

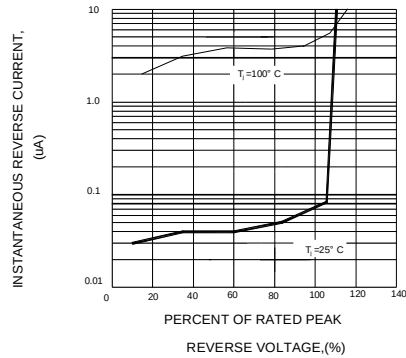


FIG.5-TYPICAL JUNCTION CAPACITANCE

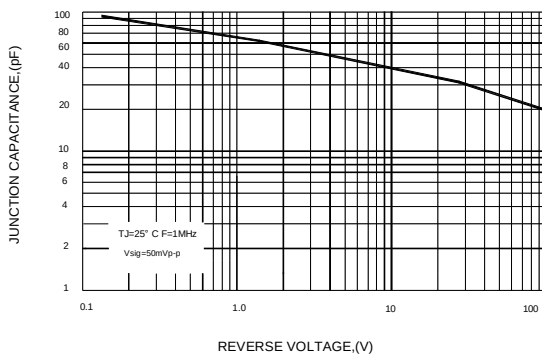


FIG.6-TEST CIRCUIT DIAGRAM AND
REVERSE RECOVERY TIME CHARACTERISTIC

