III. Fast / Ultra Fast / Super Fast Recovery Rectifier

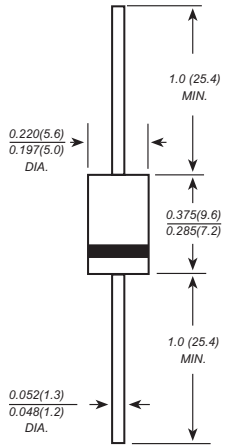
3.0A Super Fast Recovery Rectifier
SF31~SF38 (Package: DO-201AD)

FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Super fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed: 250℃/10 seconds, 0.375”(9.5mm) lead length, 5 lbs. (2.3 kg) tension

MECHANICAL DATA

- Case : JEDEC DO-201AD molded plastic body
- Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight : 0.04 ounce, 1.10 grams



Case: DO-201AD
Dimensions in inches and (millimeters)

Ratings & Electrical Characteristics

Characteristic	Symbol	SF31	SF32	SF33	SF34	SF35	SF36	SF38	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	Volts
Maximum average forward rectified current 0.375”(9.5mm) lead length at Ta = 55℃	I_O	3.0							Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	100.0							Amps
Maximum instantaneous forward voltage at 3.0A	V_F	0.95				1.30		1.70	Volts
Maximum DC reverse current Ta = 25℃ at rated DC blocking voltage Ta = 100℃	I_R	10.0 250.0							μA
Maximum reverse recovery time (Note 1)	Trr	35							ns
Typical junction capacitance (Note 2)	Cj	100.0				50.0			PF
Typical thermal resistance (Note 3)	Rth-JA	30.0							℃ / W
Operating junction and storage temperature range	Tj ,Tstg	-65 to + 150							℃

Note :
1. Reverse recovery condition I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts DC
3. Thermal resistance from junction to ambient at 0.375” (9.5mm) lead length, P.C.B. mounted

Ratings and Characteristic Curves of SF31~SF38

FIG. 1- FORWARD CURRENT DERATING CURVE

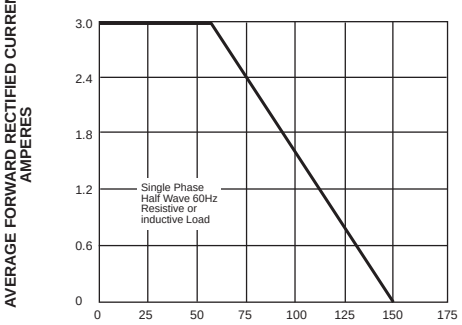


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

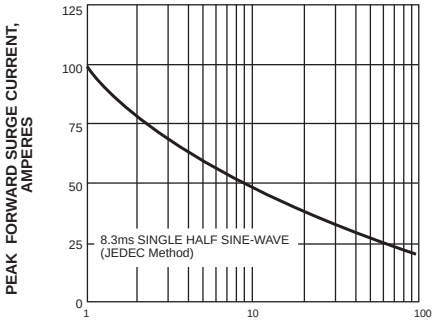


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

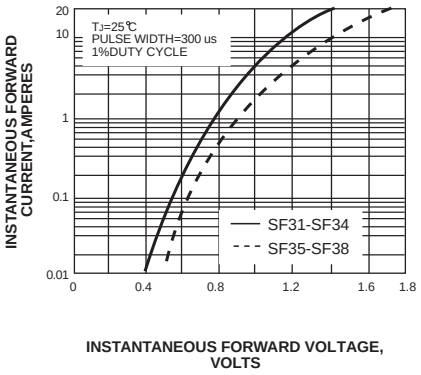


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

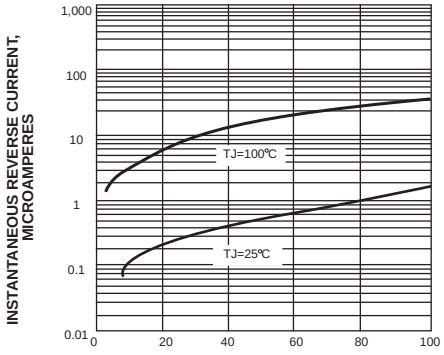


FIG. 5-TYPICAL JUNCTION CAPACITANCE

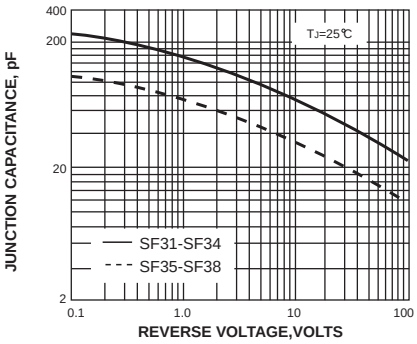


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE