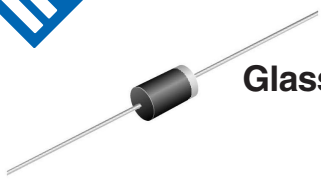
SF31G thru SF38G

Crownpo Technology



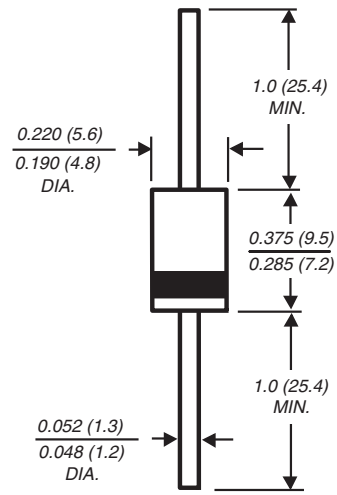
Glass Passivated Ultrafast Rectifier

Reverse Voltage 50 to 600 V
Forward Current 3.0 A

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Cavity-free glass passivated junction
- Ultrafast recovery time for high efficiency
- Low forward voltage, high current capability
- Low leakage current
- High surge current capability
- High temperature metallurgically bonded construction
- High temperature soldering guaranteed: 300˚C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

D0201AD



Dimensions in inches and (millimeters)

Mechanical Data

Case: Molded plastic over solid glass body
Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.04 oz., 1.12g

Maximum Ratings & Thermal Characteristics

Ratings at 25˚C ambient temperature unless otherwise specified.

Parameter	Symbol	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF37G	SF38G	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_L = 55˚C	$I_{F(AV)}$	3.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	125								A
Typical thermal resistance (Note 1)	$R_{\theta JA}$ $R_{\theta JL}$	20 8.0								˚C/W
Operating and storage temperature range	T_J,T_{STG}	–65 to +150								˚C

Electrical Characteristics

Ratings at 25˚C ambient temperature unless otherwise specified.

Parameter	Symbol	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF37G	SF38G	Unit
Maximum instantaneous forward voltage at 3.0A	V_F	0.95				1.25		1.7		V
Maximum DC reverse current T_A = 25˚C at rated DC blocking voltage T_A = 125˚C	I_R	5 100								μA
Maximum reverse recovery time at I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A	t_{rr}	35								ns
Typical junction capacitance at 4.0V, 1MHz	C_J	85				75				pF

Note: (1) Thermal resistance from junction to ambient, and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 - Maximum Forward Current Derating Curve

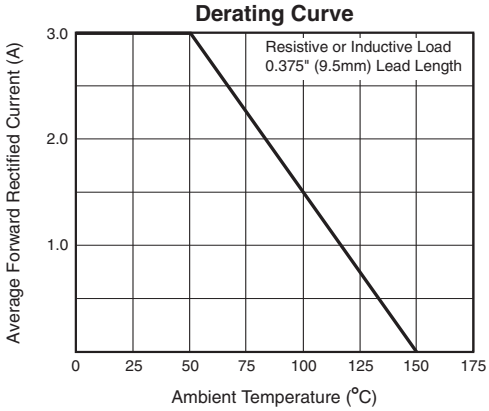


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

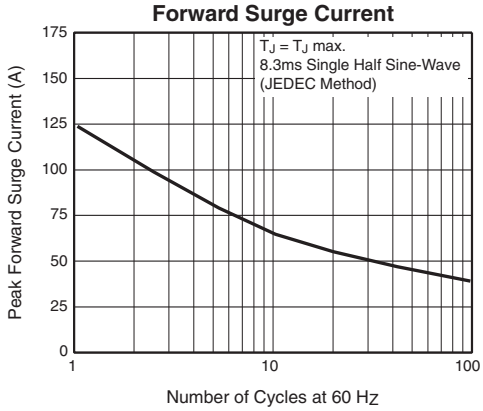


Fig. 3 - Typical Instantaneous Forward Characteristics

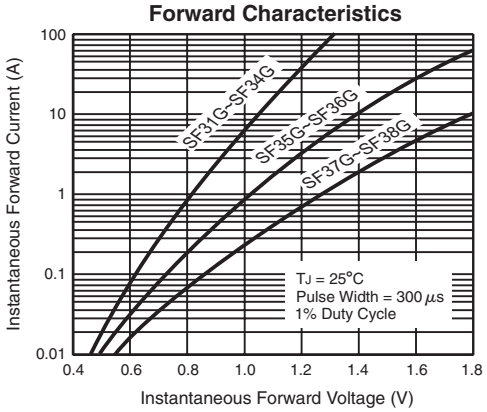


Fig. 4 - Typical Reverse Leakage Characteristics

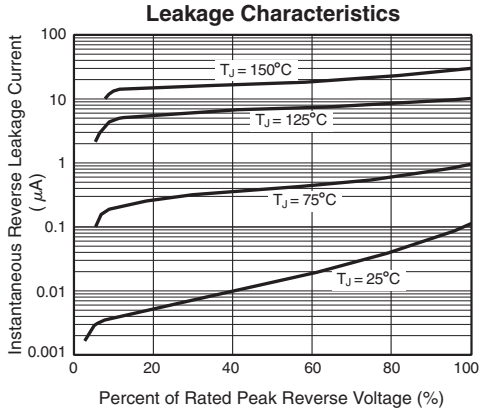


Fig. 5 - Typical Junction Capacitance

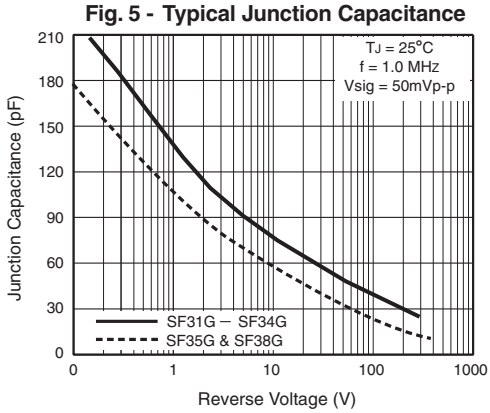


Fig. 6 - Typical Transient Thermal Impedance