



SF1004G-Q1

10.0 AMPS. Glass Passivated Super Fast Rectifiers



Voltage Range
200 Volts
Current
10.0 Amperes

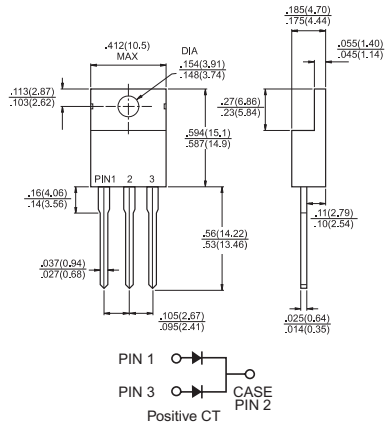
Features

- ✦ Low forward voltage drop
- ✦ High current capability
- ✦ High reliability
- ✦ High surge current capability

Mechanical Data

- ✦ Case: Molded plastic
- ✦ Epoxy: UL 94V-O rate flame retardant
- ✦ Terminals: Leads solderable per MIL-STD-202, Method 208 guaranteed
- ✦ Polarity: As marked
- ✦ High temperature soldering guaranteed: 260°C/10 seconds .16", (4.06mm) from case.
- ✦ Weight: 2.24 grams

TO-220



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	SF1004G-Q1	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	V
Maximum RMS Voltage	V_{RMS}	140	V
Maximum DC Blocking Voltage	V_{DC}	200	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_C = 100^\circ\text{C}$	$I_{(AV)}$	10.0	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	125	A
Maximum Instantaneous Forward Voltage @ 5.0A @ 10.0A	V_F	1.1 1.25	V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$	I_R	10.0 500	μA μA
Reverse Recovery Charge(Per Diode) @ $I_F=2\text{A}$, $V_R \geq 30\text{V}$, $-dI_F/dt=20\text{A}/\mu\text{S}$	QS	9	nC
Thermal Resistance Junction to Case (Note 3)	$R_{\theta JC}$	3.0	$^\circ\text{C}/\text{W}$
Rating for Fusing ($t < 8.3\text{ms}$)	I^2t	65	A^2S
Maximum Reverse Recovery Time (Note 1)	T_{rr}	25	nS
Typical Junction Capacitance (Note 2)	C_j	10	pF
Operating Temperature Range	T_J	-50 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-50 to +150	$^\circ\text{C}$

Notes: 1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

3. Thermal Resistance from Junction to Case Mounted on Heatsink. Size of 2 in x 3 in x 0.25 in Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (SF1004G-Q1)

FIG. 1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

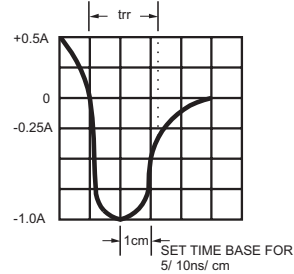
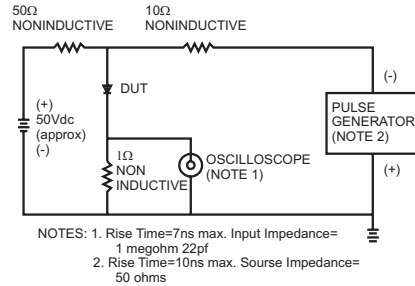


FIG. 2- MAXIMUM FORWARD CURRENT DERATING CURVE

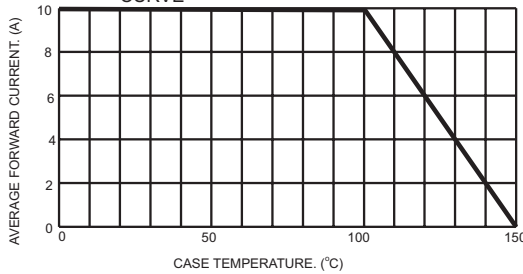


FIG. 3- TYPICAL REVERSE CHARACTERISTICS

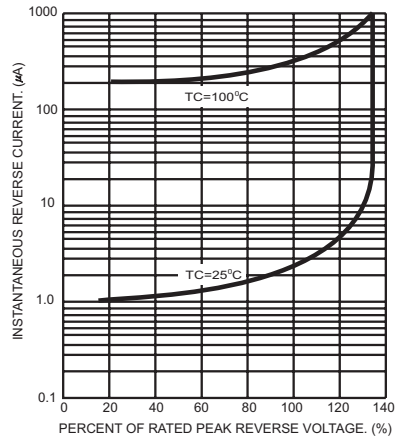


FIG. 4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

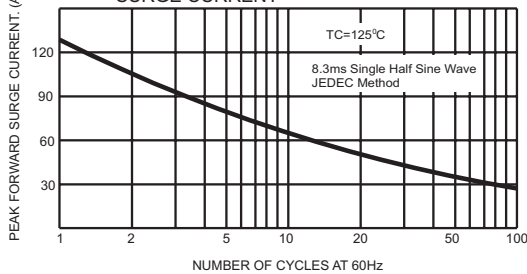


FIG. 6- TYPICAL FORWARD CHARACTERISTICS

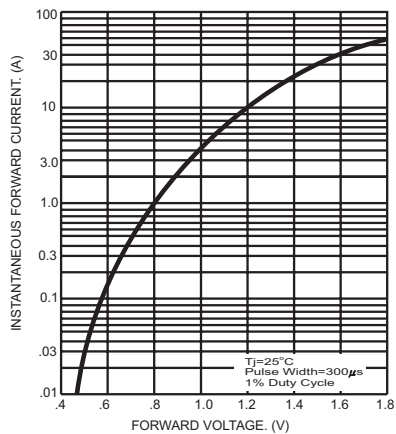


FIG. 5- TYPICAL JUNCTION CAPACITANCE

