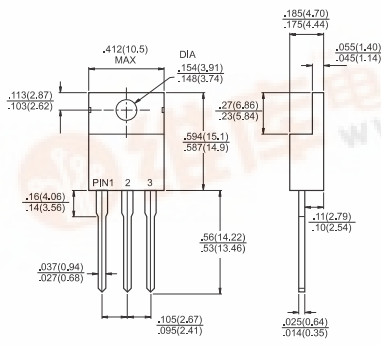


TSC SB	SF2004G THRU SF2006G 20.0 AMPS. Glass Passivated Super Fast Rectifiers																																																																				
		Voltage Range 200 to 400 Volts Current 20.0 Amperes																																																																			
Features ✧ Low forward voltage drop ✧ High current capability ✧ High reliability ✧ High surge current capability		TO-220  Dimensions in inches and (millimeters)																																																																			
Mechanical Data ✧ Cases: 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																																																																					
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% <table><tr><th>Type Number</th><th>Symbol</th><th>SF2004G</th><th>SF2006G</th><th>Units</th></tr><tr><td>Maximum Recurrent Peak Reverse Voltage</td><td>V_{RRM}</td><td>200</td><td>400</td><td>V</td></tr><tr><td>Maximum RMS Voltage</td><td>V_{RMS}</td><td>140</td><td>280</td><td>V</td></tr><tr><td>Maximum DC Blocking Voltage</td><td>V_{DC}</td><td>200</td><td>400</td><td>V</td></tr><tr><td>Maximum Average Forward Rectified Current @ T_C = 100°C</td><td>I_(AV)</td><td colspan="2">20.0</td><td>A</td></tr><tr><td>Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)</td><td>I_{FSM}</td><td colspan="2">125</td><td>A</td></tr><tr><td>Maximum Instantaneous Forward Voltage @ 10.0A</td><td>V_F</td><td>0.975</td><td>1.35</td><td>V</td></tr><tr><td>Maximum DC Reverse Current @ T_A=25°C at Rated DC Blocking Voltage @ T_A=100°C</td><td>I_R</td><td colspan="2">5.0 400</td><td>uA uA</td></tr><tr><td>Maximum Reverse Recovery Time (Note 1)</td><td>T_{rr}</td><td colspan="2">35</td><td>nS</td></tr><tr><td>Typical Junction Capacitance (Note 2)</td><td>C_j</td><td colspan="2">80</td><td>pF</td></tr><tr><td>Typical Thermal Resistance (Note 3)</td><td>Rθ_{JC}</td><td colspan="2">2.5</td><td>°C/W</td></tr><tr><td>Operating Temperature Range</td><td>T_J</td><td colspan="2">-65 to +150</td><td>°C</td></tr><tr><td>Storage Temperature Range</td><td>T_{STG}</td><td colspan="2">-65 to +150</td><td>°C</td></tr></table>					Type Number	Symbol	SF2004G	SF2006G	Units	Maximum Recurrent Peak Reverse Voltage	V _{RRM}	200	400	V	Maximum RMS Voltage	V _{RMS}	140	280	V	Maximum DC Blocking Voltage	V _{DC}	200	400	V	Maximum Average Forward Rectified Current @ T _C = 100°C	I _(AV)	20.0		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 @ 10.0A	V _F	0.975	1.35	V	Maximum DC Reverse Current @ T _A =25°C at Rated DC Blocking Voltage @ T _A =100°C	I _R	5.0 400		uA uA	Maximum Reverse Recovery Time (Note 1)	T _{rr}	35		nS	Typical Junction Capacitance (Note 2)	C _j	80		pF	Typical Thermal Resistance (Note 3)	Rθ _{JC}	2.5		°C/W	Operating Temperature Range	T _J	-65 to +150		°C	Storage Temperature Range	T _{STG}	-65 to +150		°C
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Notes: 1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$
 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 3" x 5" x 0.25" Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (SF2004G THRU SF2006G)

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

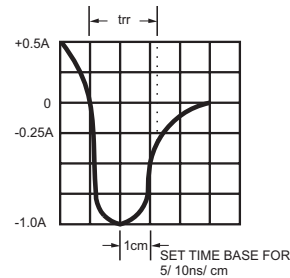
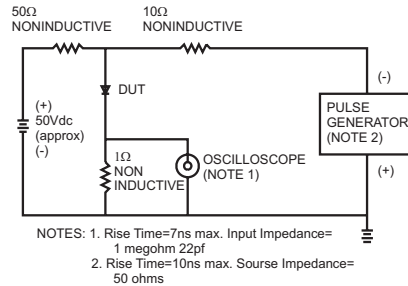


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

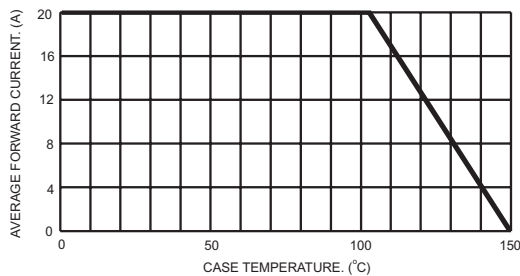


FIG.3- TYPICAL REVERSE CHARACTERISTICS

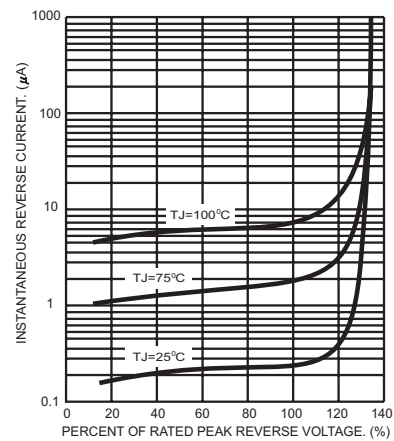


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

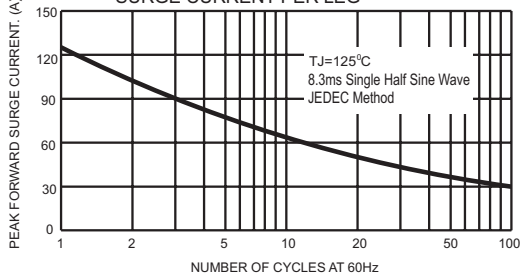


FIG.6- TYPICAL FORWARD CHARACTERISTICS PER LEG

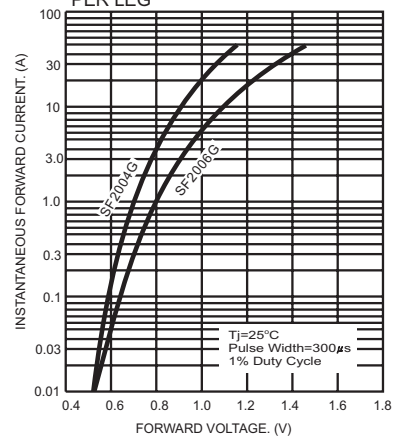


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

