

Pb Free Plating Product

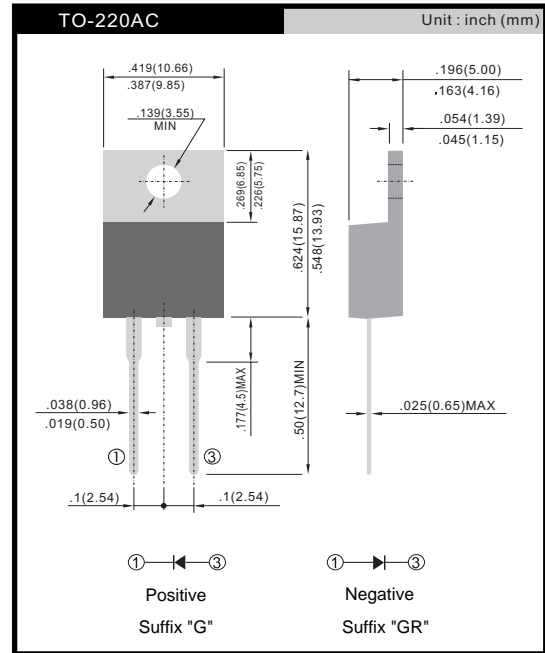
SFA1601G thru SFA1608G



16.0 Ampere Glass Passivated Super Fast Recovery Rectifier Diode

- Features**
- * Glass passivated chip junction
 - * Low forward voltage drop
 - * High current capability
 - * Low reverse leakage current
 - * High surge current capability
- Application**
- * Automotive Inverters/Solar Inverters
 - * Plating Power Supply, SMPS and UPS
 - * Car Audio Amplifiers and Sound Device Systems

- Mechanical Data**
- * Case: Heatsink TO-220AC
 - * Epoxy: UL 94V-0 rate flame retardant
 - * Terminals: Solderable per MIL-STD-202 method 208
 - * Polarity: As marked on diode body
 - * Mounting position: Any
 - * Weight: 2.0 gram approxiamtely



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	SFA 1601G	SFA 1602G	SFA 1603G	SFA 1604G	SFA 1605G	SFA 1606G	SFA 1607G	SFA 1608G	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	$I_{F(AV)}$	16								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	200								A
Maximum Instantaneous Forward Voltage (Note 1) @ 16 A	V_F	0.975			1.3		1.7			V
Maximum Reverse Current @ Rated VR $T_A=25\text{ }^\circ\text{C}$ $T_A=100\text{ }^\circ\text{C}$	I_R	10				400				μA
Maximum Reverse Recovery Time (Note 2)	T_{rr}	35								nS
Typical Junction Capacitance (Note 3)	C_j	130				100				pF
Typical Thermal Resistance	$R_{\theta JC}$	1								$^\circ\text{C/W}$
Operating Temperature Range	T_J	- 65 to + 150								$^\circ\text{C}$
Storage Temperature Range	T_{STG}	- 65 to + 150								$^\circ\text{C}$

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (SFA1601GR thru SFA1608GR)

FIG. 1 FORWARD CURRENT DERATING CURVE

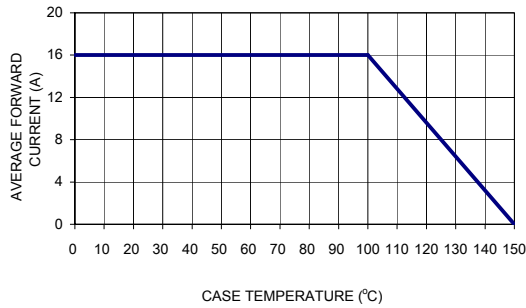


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

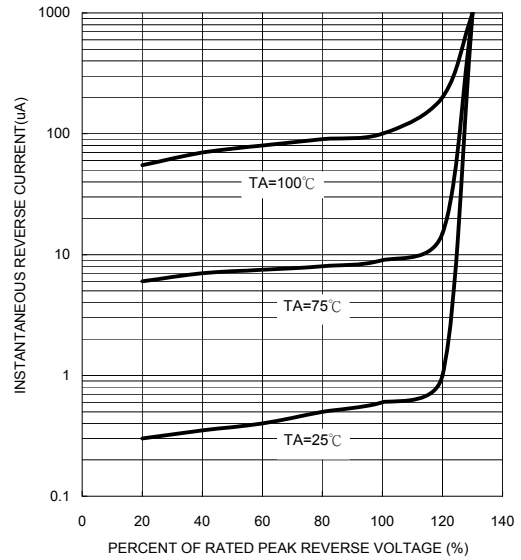


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

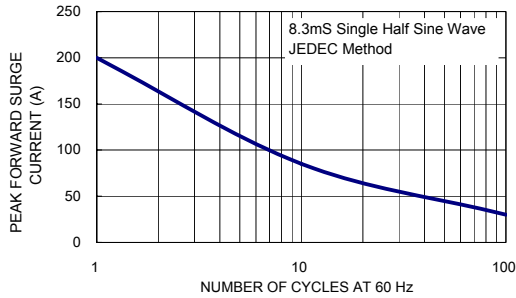


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

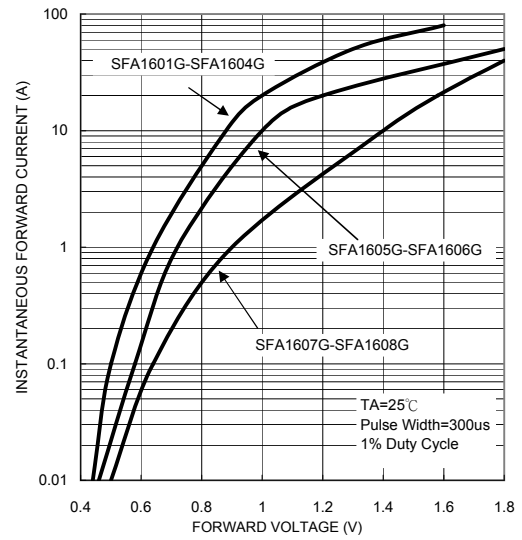


FIG. 4 TYPICAL JUNCTION CAPACITANCE

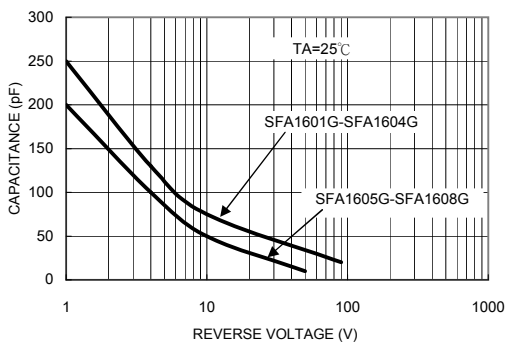


FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

