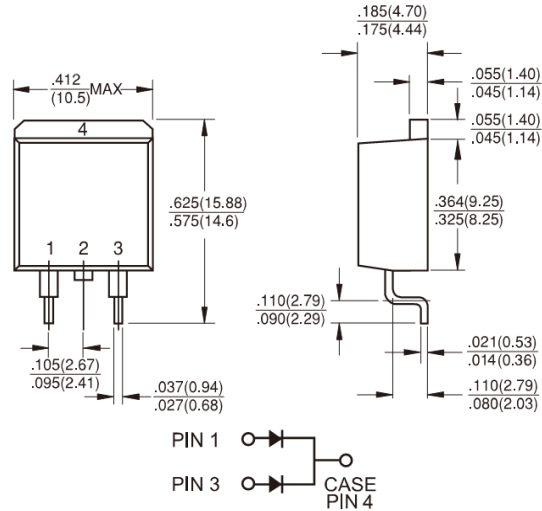


**D<sup>2</sup>PAK**



**Features**

- ✧ UL Recognized File #E-326854
- ✧ Glass passivated junction chip
- ✧ High efficiency, low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application
- ✧ Qualified as per AEC-Q101
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



**Mechanical Data**

- ✧ Case: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Terminals: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ High temperature soldering: 260°C/10 seconds/.16",(4.06mm) from case
- ✧ Weight: 1.41 grams

**Dimensions in inches and (millimeters)**

**Marking Diagram**



- SFS160XG = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

**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	SFS 1601G	SFS 1602G	SFS 1603G	SFS 1604G	SFS 1605G	SFS 1606G	SFS 1607G	SFS 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 @ $T_C=100^\circ C$	$I_{F(AV)}$	16								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 (Note 1) @ 8 A	$V_F$	0.975			1.3		1.7			V
Maximum DC Reverse Current @ Rated DC Blocking Voltage	$I_R$	$T_A=25^\circ C$				10				uA
		$T_A=100^\circ C$				400				
Maximum Reverse Recovery Time (Note 2)	$T_{rr}$	35								nS
Typical Junction Capacitance (Note 3)	$C_j$	80				60				pF
Typical Thermal Resistance	$R_{\theta JC}$	2.5								$^\circ C/W$
Operating Temperature Range	$T_J$	- 65 to + 150								$^\circ C$
Storage Temperature Range	$T_{STG}$	- 65 to + 150								$^\circ C$

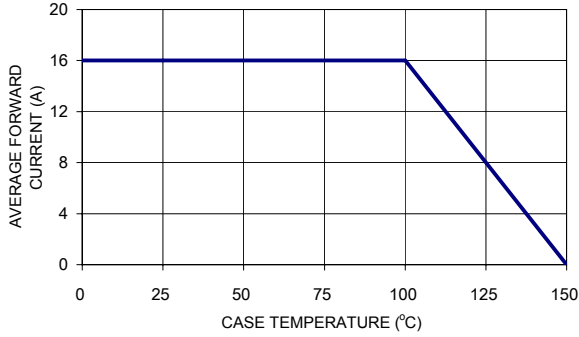
Note 1: Pulse Test with PW=300usec, 1% Duty Cycle

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

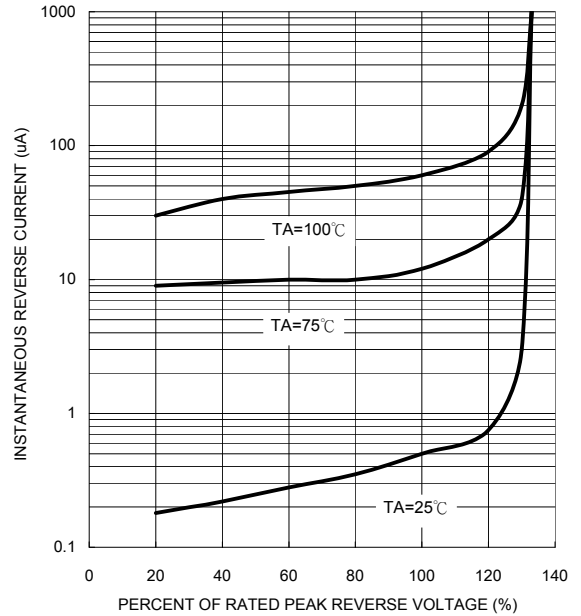
Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

**RATINGS AND CHARACTERISTIC CURVES (SFS1601G THRU SFS1608G)**

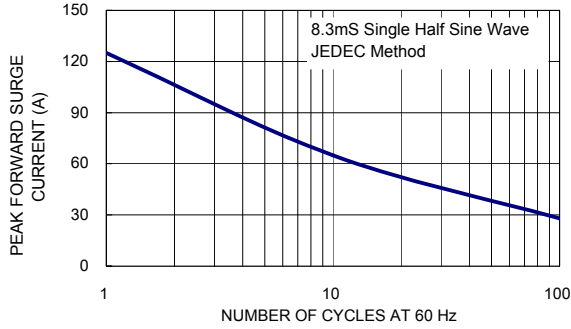
**FIG.1 FORWARD CURRENT DERATING CURVE**



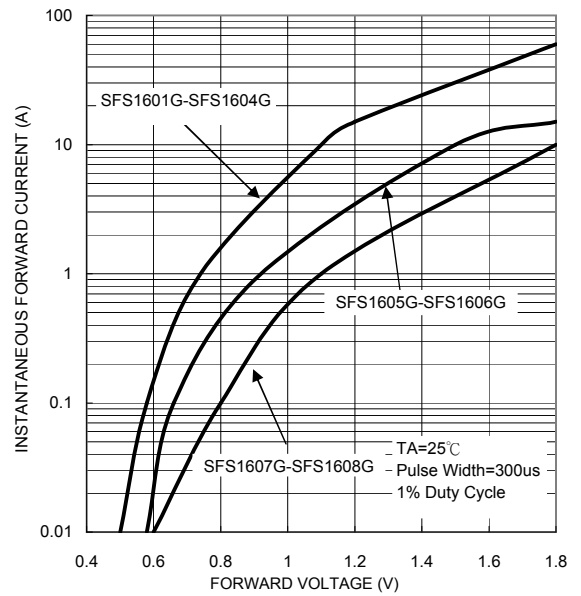
**FIG. 2 TYPICAL REVERSE CHARACTERISTICS**



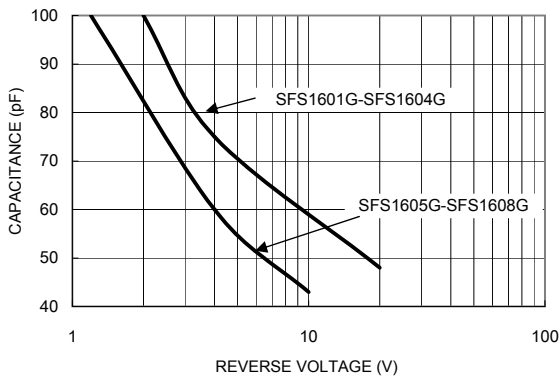
**FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG. 5 TYPICAL FORWARD CHARACTERISTICS**



**FIG. 4 TYPICAL JUNCTION CAPACITANCE**



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

