FS1A/RS1A-FS1M/RS1M

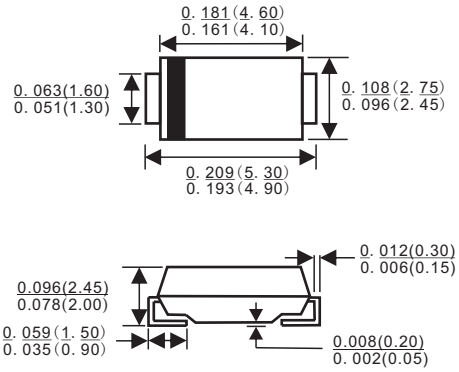
1.0AMP.Surface Mount Fast Recovery Rectifiers

LGE

SMA/DO-214AC

Features

- ✧ For surface mounted application
- ✧ Glass passivated junction chip
- ✧ Built-in strain relief, ideal for automated placement
- ✧ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✧ Fast switching for high efficiency
- ✧ High temperature soldering: 260°C/ 10 seconds at terminals



Dimensions in inches and(millimeters)

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Terminals: Pure tin plated, Lead free.
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 12mm tape per EIA STD RS-481
- ✧ Weight: 0.064 gram

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%

Parameter	Symbol	RS1AA FS1AA	RS1BA FS1BA	RS1DA FS1DA	RS1GA FS1GA	RS1JA FS1JA	RS1KA FS1KA	RS1MA FS1MA	Units
Marking code		RS1A FS1A	RS1B FS1B	RS1D FS1D	RS1G FS1G	RS1J FS1J	RS1K FS1K	RS1M FS1M	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current See Fig. 1 @T_L=90 °C	$I_{(AV)}$	1.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage @ 1.0A	V_F	1.3							V
Maximum DC Reverse Current @ T_A =25 °C at Rated DC Blocking Voltage @ T_A=125 °C	I_R	5 50							uA uA
Maximum Reverse Recovery Time (Note 1)	Trr	150				250	500		nS
Typical Junction Capacitance (Note 2)	Cj	10							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	105 32							°C /W
Operating Temperature Range	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to +150							°C

Notes:
1. Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1 MHz and Applied VR=4.0 Volts
3. Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on P.C.B. with 0.2"x0.2" (5.0 x 5.0 mm) Copper Pad Areas.

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RATINGS AND CHARACTERISTIC CURVES (RS1A THRU RS1M)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

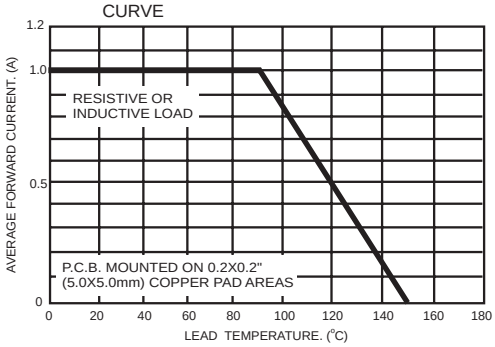


FIG.2- TYPICAL REVERSE CHARACTERISTICS

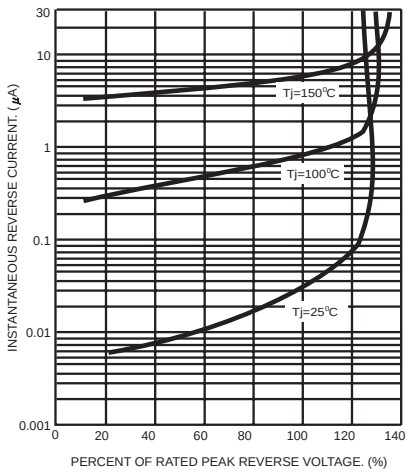


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

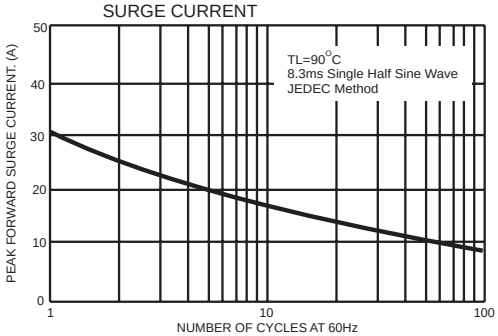


FIG.4- TYPICAL JUNCTION CAPACITANCE

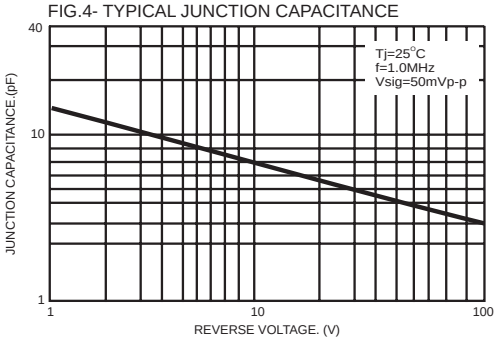


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

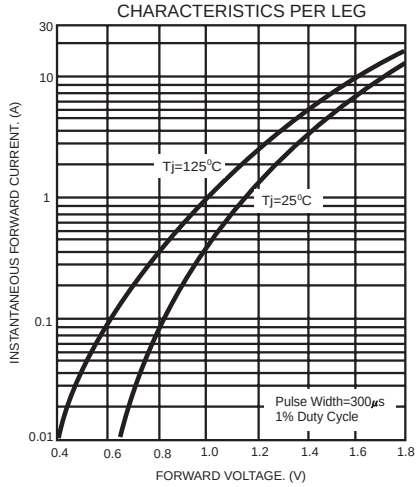
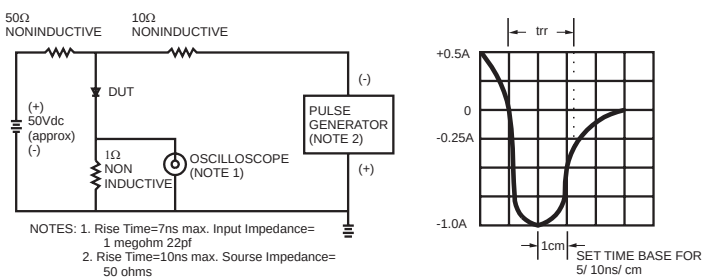


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMA	5000/REEL	80000	36X30.6X31	12.00	11.00