

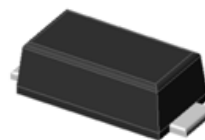
## 1A,50-1000V High Efficient Rectifiers

### Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- High temperature soldering guaranteed: 260°C/10 seconds



**RoHS**  
COMPLIANT



eSGA (SOD-123FL)

### Applications

For use of fast switching rectification in lighting, cellular phone, portable device, power supplies and other consumer applications.

Maximum Ratings & Electrical Characteristics (T <sub>A</sub> =25°C unless otherwise noted)									
Parameter	Symbol	FH1	FH2	FH3	FH4	FH5	FH6	FH7	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	1							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	30							A
Operating junction temperature range	T <sub>J</sub>	-55 to +150							°C
Storage temperature range	T <sub>STG</sub>	-55 to +150							°C

Thermal-Mechanical Specifications (T <sub>A</sub> =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	100	°C / W
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	20	°C / W
Thermal Resistance, Junction to Lead	R <sub>θJL</sub>	20	°C / W

Electrical Specifications ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)										
Parameter	Symbol	Test Conditions	FH1	FH2	FH3	FH4	FH5	FH6	FH7	Unit
Forward Drop Voltage	$V_F$	$I_F=1\text{A}$	1.3				1.7			V
Reverse leakage current @VR	$I_R$	$T_J=25^{\circ}\text{C}$	5							uA
		$T_J=125^{\circ}\text{C}$	100							
Maximum reverse recovery time	$t_{rr}$	$I_F=0.5\text{A},$ $I_R=1.0\text{A},$ $I_{RR}=0.25\text{A}$	50				75			nS

Note:

1. Mounted on copper pad area of 0.2x0.2" (5.0 x 5.0mm) to each terminal.

## Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

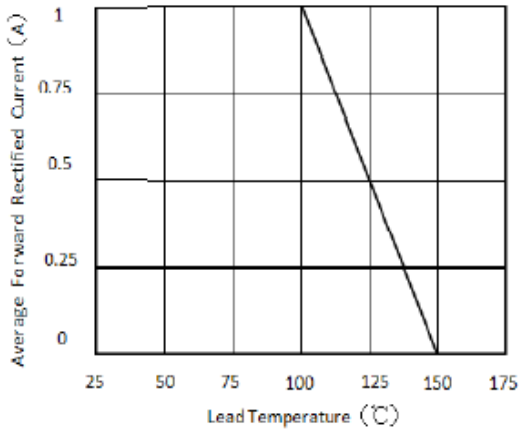


Figure 1. Forward Current Derating Curve

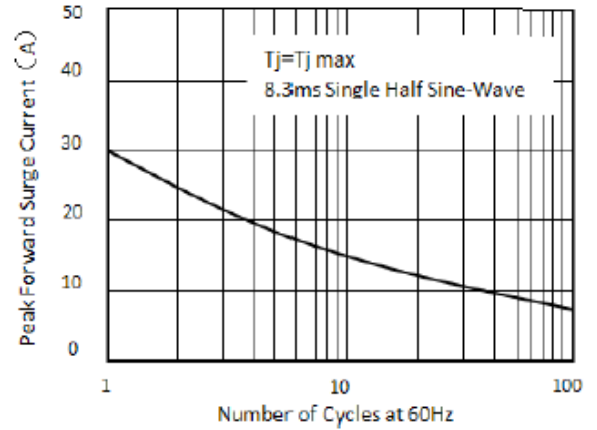


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

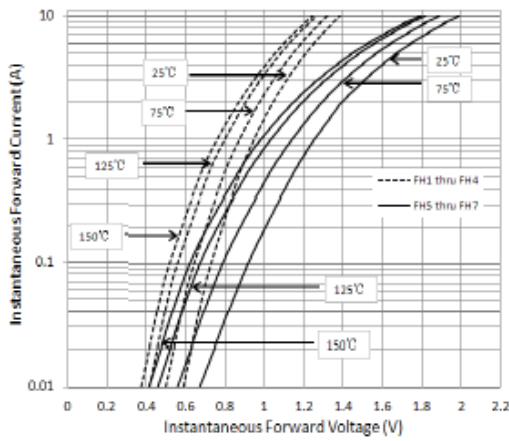


Figure 3. Typical Instantaneous Forward Characteristics

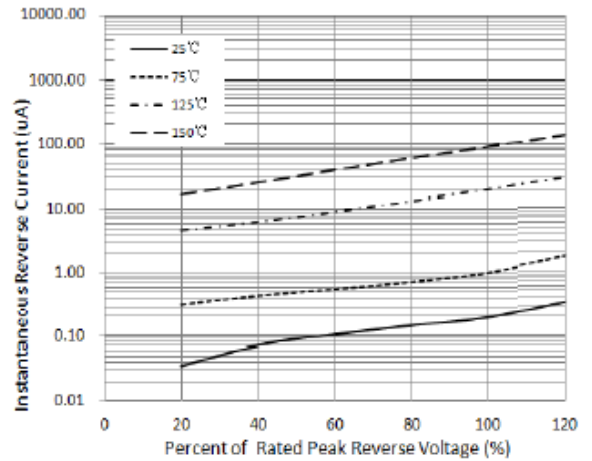
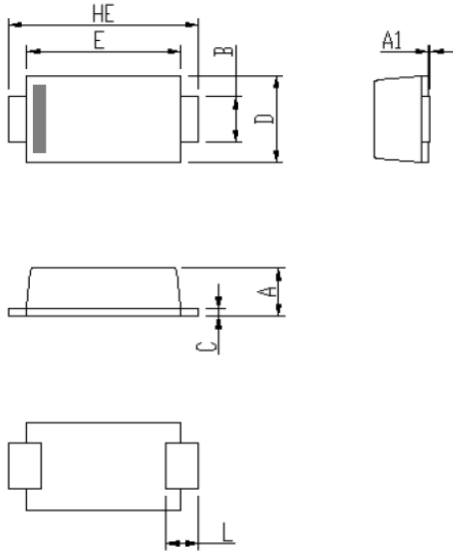


Figure 4. Typical Reverse Characteristics

## Package Outline Dimensions

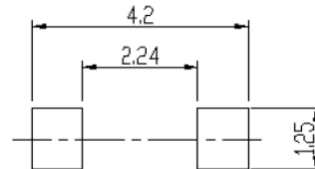
in inches (millimeters)

### eSGA (SOD-123FL)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.9	1.08	0.035	0.043
A1	0	0.1	0.000	0.004
B	0.85	1.05	0.033	0.041
C	0.1	0.25	0.004	0.010
D	1.7	2	0.067	0.079
E	2.9	3.1	0.114	0.122
L	0.43	0.83	0.017	0.033
HE	3.5	3.9	0.138	0.154

Soldering footprint



## Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2023.10.11	Modify document format

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