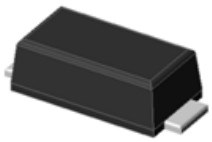
1A,50-1000V Fast Recovery Rectifiers

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℃/10 seconds

Pb
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 (TA=25℃ unless otherwise noted)

Parameter	Symbol	RS1001FL	RS1002FL	RS1003FL	RS1004FL	RS1006FL	RS1008FL	RS1010FL	Unit
Maximum repetitive 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	$I_{F(AV)}$	1							A
Peak forward surge current,8.3ms single half sine-wave superimposed on rated load per diode	I_{FSM}	30							A
Operating junction temperature range	T_J	-55 to +150							°C
Storage temperature range	T_{STG}	-55 to +150							°C

Thermal-Mechanical Specifications (TA=25℃ unless otherwise noted)

Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	100	°C /W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	20	°C /W
Thermal Resistance, Junction to Lead	$R_{\theta JL}$	20	°C /W

Electrical Specifications (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	RS1001FL	RS1002FL	RS1003FL	RS1004FL	RS1006FL	RS1008FL	RS1010FL	Unit
Forward Drop Voltage	V_F	I_F=1A	1.3							V
Reverse leakage current @VR	I_R	T_J =25℃	5							uA
		T_J =125℃	50							
Typical junction capacitance	C_J	4.0 V 1 MHZ	8.2							pF
Maximum reverse recovery time	trr	I_F=0.5A, I_R=1.0A, I_{RR}=0.25A	150				250	500		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℃ unless otherwise noted)

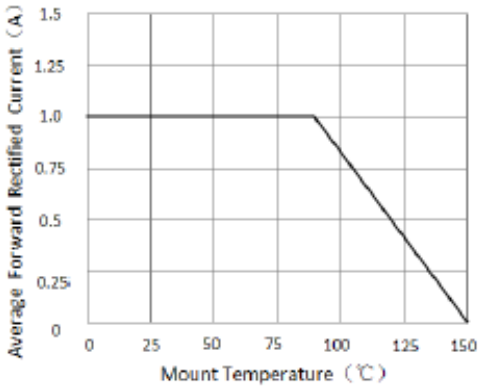


Figure 1.Forward Current Derating Curve

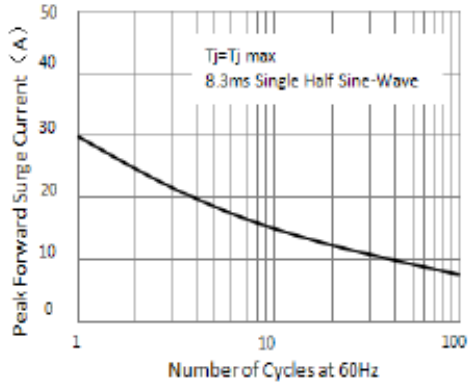


Figure 2.Maximum Non-Repetitive Peak Forward Surge Current

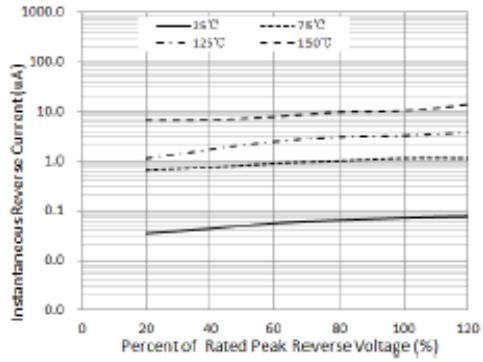


Figure 3. Typical Reverse Characteristics

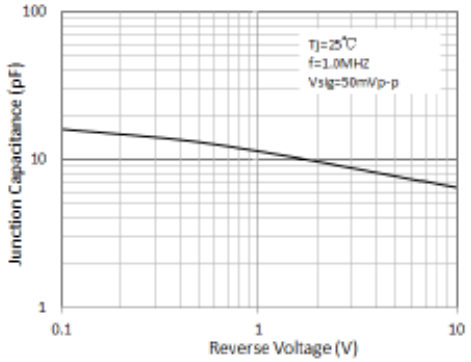


Figure 4. Typical Junction Capacitance

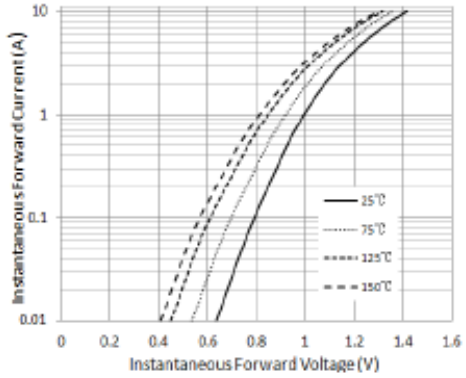
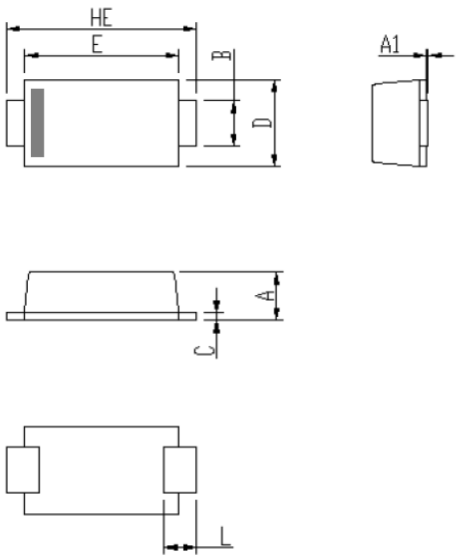


Figure 5. Typical Instantaneous Forward Characteristics

Package Outline Dimensions

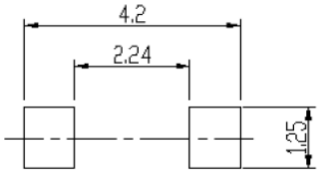
in inches (millimeters)

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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