

Features

- Low V_F schottky barrier rectifiers
- Low profile - typical height 1.0 mm
- Low forward voltage drop
- Low leakage current
- Moisture sensitivity: level 1, per J-STD-020
- AEC-Q101 qualified
- High temperature soldering guaranteed: 260°C/10 seconds
- Halogen-free according to IEC 61249-2-21 definition



Package: eSGA
(SOD-123FL)

Applications

For use in fast switching in RF module, lighting, cell phone, portable devices, power supply and other consumer applications.

Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	FS12	FS13	FS14	FS16	FS1B	FS1B5H	FS1CH	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	60	100	150	200	V
Maximum RMS Voltage	V_{RMS}	14	21	28	42	70	105	140	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	60	100	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current (8.3 ms Single Half Sine-wave Superimposed on Rated Load)	I_{FSM}	30.0							A
Operation Junction Temperature Range	T_J	- 55 to + 150							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	- 55 to + 150							$^\circ\text{C}$

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Test Conditions	Symbol	FS12	FS13	FS14	FS16	FS1B	FS1B5H	FS1CH	Unit
Maximum Instantaneous Forward Voltage	$I_F=0.5\text{A}, T_A=25^\circ\text{C}$	V_F	0.40	0.45		0.55	0.75	0.80		V
	$I_F=1\text{A}, T_A=25^\circ\text{C}$		0.50			0.70	0.81	0.90		
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	I_R	200	200		200	150	200		μA
	$T_A=125^\circ\text{C}$		10	30		20				mA
Typical Junction Capacitance	4.0V, 1MHZ	C_J	51			34	28			
Typical Thermal Resistance ¹⁾	Juntion to Ambient	$R_{\theta JA}$				90			$^\circ\text{C/W}$	
	Juntion to Case	$R_{\theta JC}$				60				
	Juntion to Mount	$R_{\theta JM}$				20				

Note:1) The thermal resistance from junction to ambient, case or mount, mounted on P.C.B with 5×5mm copper pads, 2 OZ, FR4 PCB

Ratings and Characteristics Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

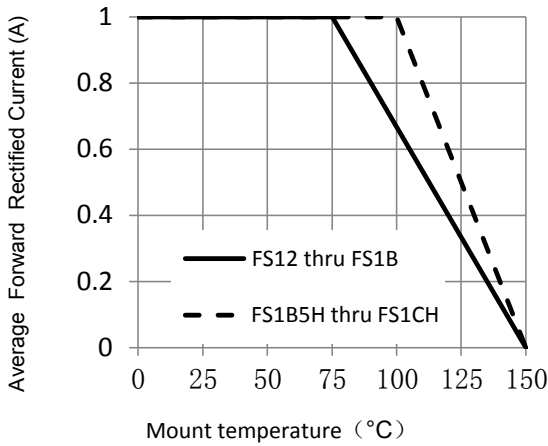


Figure 1. Forward Current Derating Curve

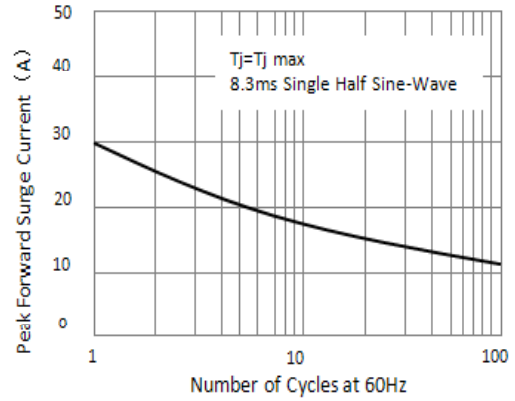


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

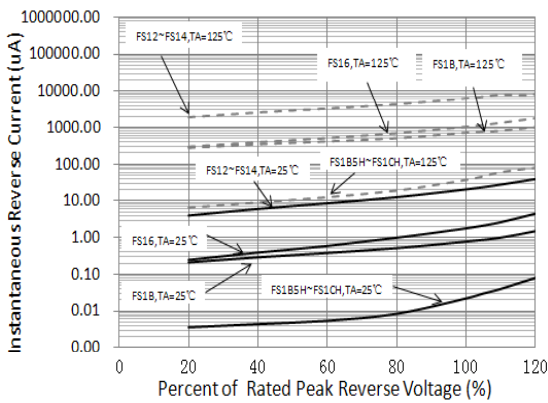


Figure 3. Typical Instantaneous Reverse Characteristics

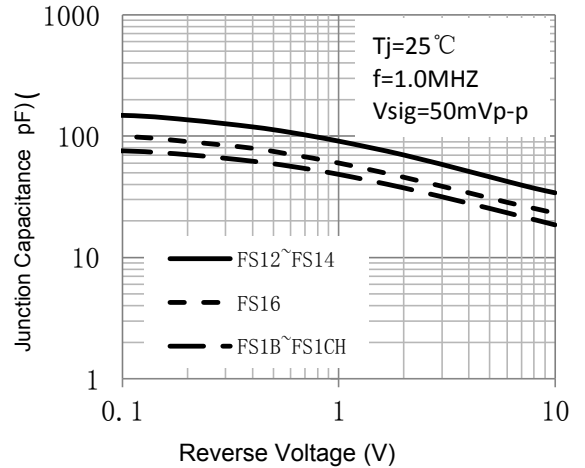


Figure 4. Typical Junction Capacitance

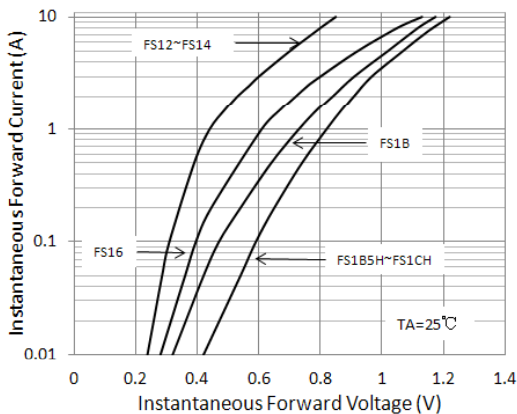
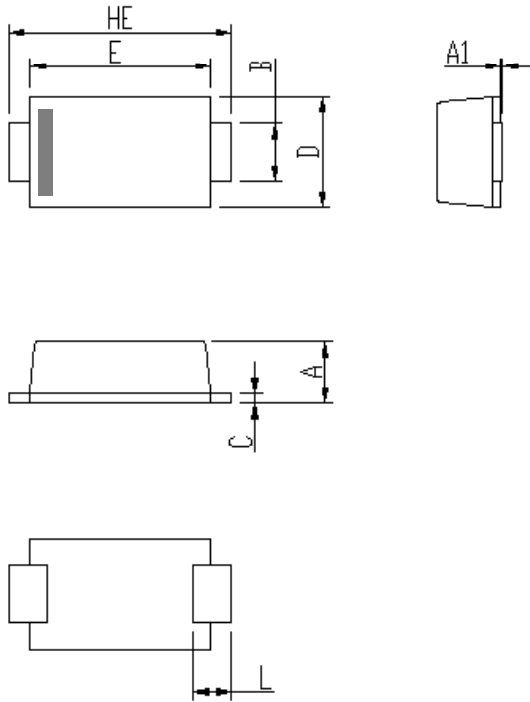


Figure 5. Typical Instantaneous Forward Characteristics

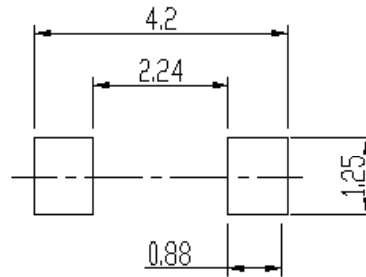
Package Outline Dimensions

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

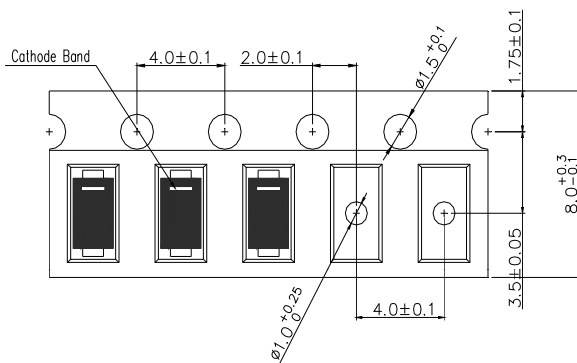


Packing Information

Packing quantities

3000 pcs/Reel, 40 Reels/Box; 8mm Tape, 7" Reel

Tape & Reel Specication



Marking Information

Symbol	FS12	FS13	FS14	FS16	FS1B	FS1B5H	FS1CH
Marking	12	13	14	16	1B	115	120