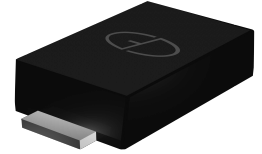


# FS12NS thru FS14NS

Surface Mount Schottky Rectifier  
 Reverse Voltage 20-40V Forward Current 1A

## 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
- 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.

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

Parameter	Symbol	FS12NS	FS13NS	FS14NS	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	30	40	V
Maximum RMS Voltage	$V_{RMS}$	14	21	28	V
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	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)	$I_{FSM}$	25			A
Operating Junction Temperature Range	$T_J$	-55 to +125			$^\circ\text{C}$
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	Typ.	Max	Unit
Instantaneous Forward Voltage	0.5A	$V_F$	0.43	-	V
	1 A		-	0.52	
Reverse Current at Rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	$I_R$	-	0.50	mA
	$T_A=100^\circ\text{C}$		-	30	
Junction Capacitance	4.0 V, 1 MHz	$C_J$	46		pF
Typical Thermal Resistance <sup>1)</sup>	Juntion to Ambient	$R_{\theta JA}$	95		$^\circ\text{C/W}$
	Juntion to Case	$R_{\theta JC}$	60		
	Juntion to Mount	$R_{\theta JM}$	30		

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)

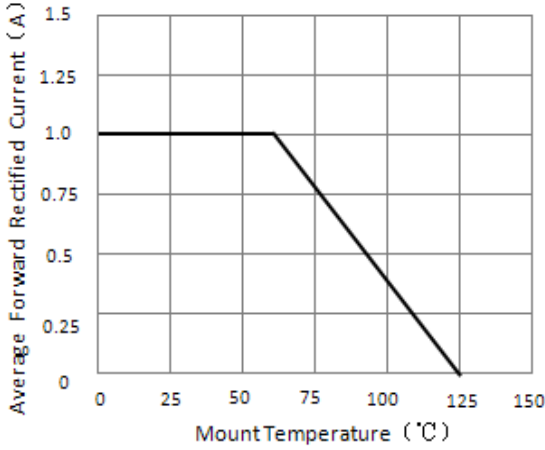


Figure 1. Forward Current Derating Curve

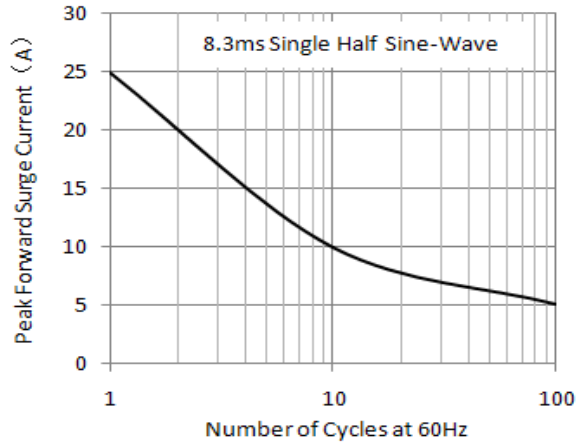


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

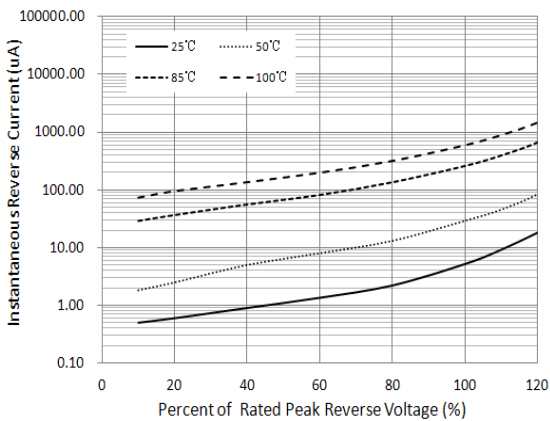


Figure 3. Typical Reverse Characteristics

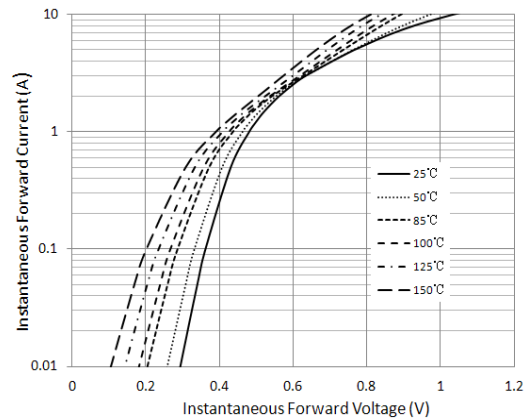


Figure 4. Typical Instantaneous Forward Characteristics

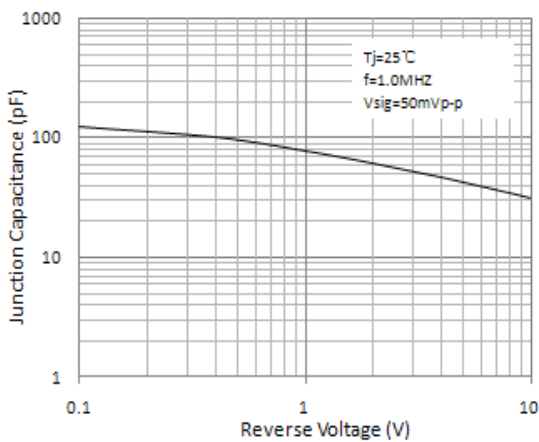


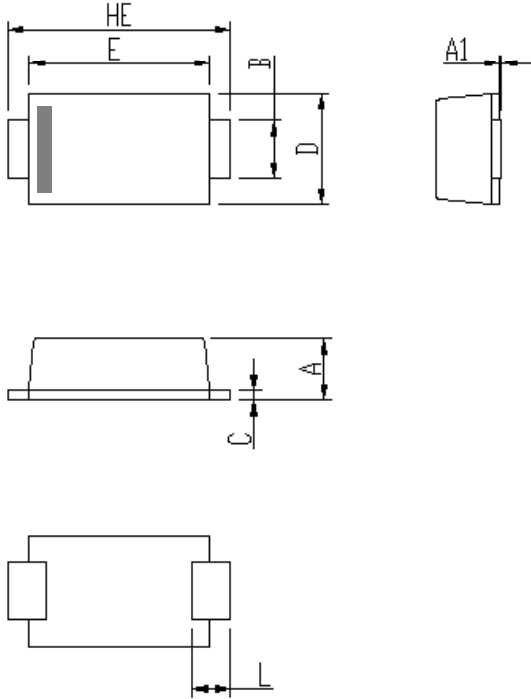
Figure 5. Typical Junction Capacitance

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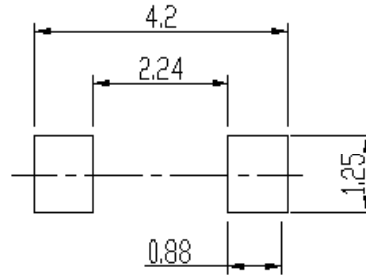
## Package Outline Dimensions

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 Spec

