

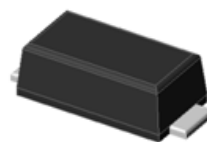
1A,20-40V Schottky Barrier Rectifiers

Features

- Low leakage current
- Schottky barrier diodes
- Low forward voltage drop
- 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 in low voltage, high frequency inverters, free-wheeling and polarity protection application.

Maximum Ratings & Electrical Characteristics (T _A =25°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			A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	25			A
Operating junction temperature range	T _J	-55 to +125			°C
Storage temperature range	T _{STG}	-55 to +150			°C

Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R _{thJA}	100	°C /W
Thermal Resistance, Junction to Case	R _{thJC}	20	°C /W
Thermal Resistance, Junction to Lead	R _{thJL}	20	°C /W

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

Parameter	Symbol	Test Conditions	Typ	Max	Unit
Maximum forward drop voltage	V_F	$I_F=0.5\text{A}$	0.43	-	V
		$I_F=1\text{A}$	-	0.52	
Maximum reverse leakage current @ V_R	I_R	$T_J=25^{\circ}\text{C}$	-	0.50	mA
		$T_J=100^{\circ}\text{C}$	-	30	
Typical junction capacitance	C_J	$V_R=4.0\text{V}$, $f=1\text{MHz}$	46		pF

Note:

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

Ratings and Characteristics Curves (T_A=25°C unless otherwise noted)

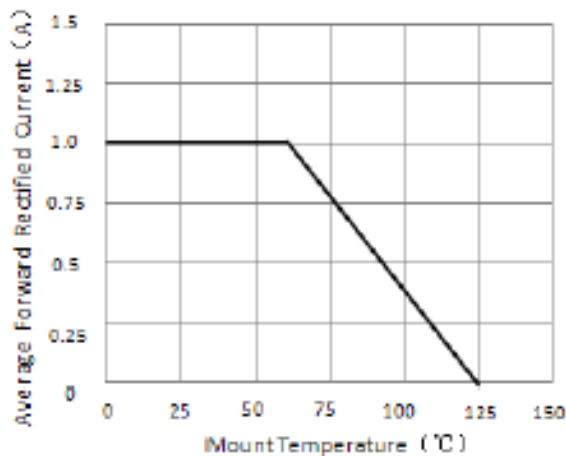


Figure 1. Forward Current Derating Curve

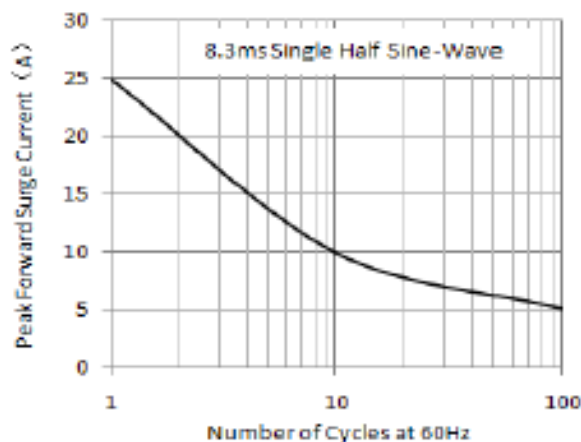


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

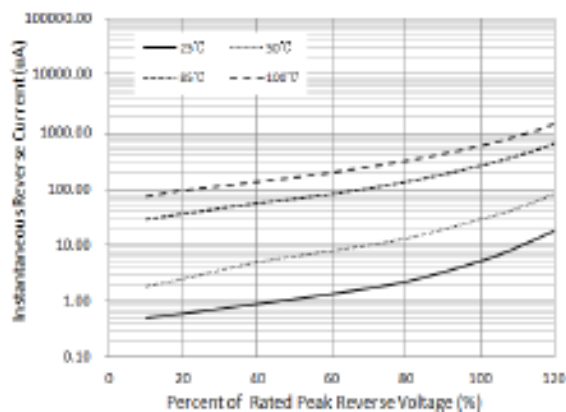


Figure 3. Typical Reverse Characteristics

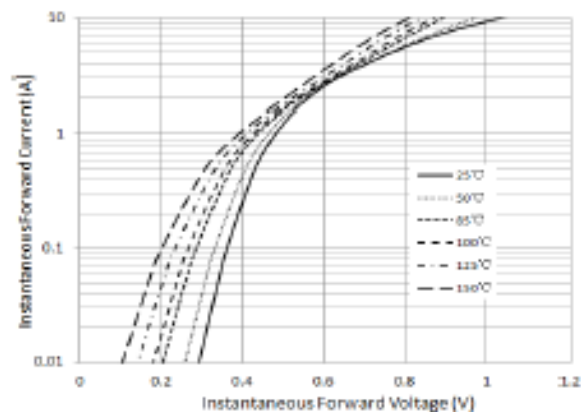


Figure 4. Typical Instantaneous Forward Characteristics

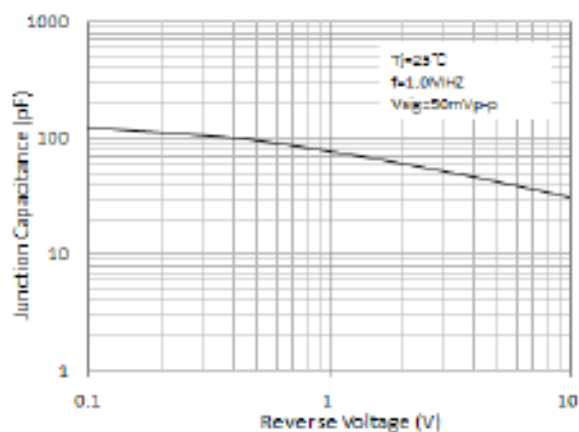
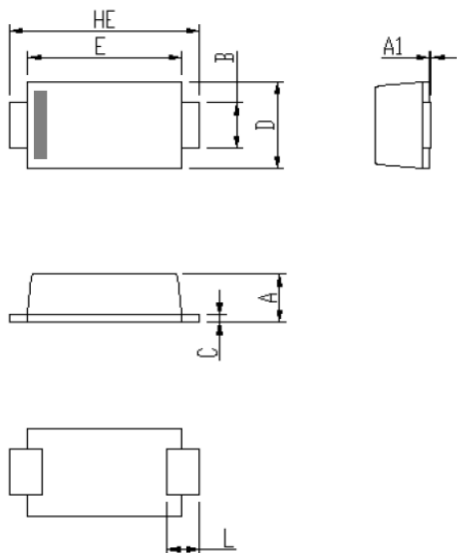


Figure 5. Typical Junction Capacitance

Package Outline Dimensions

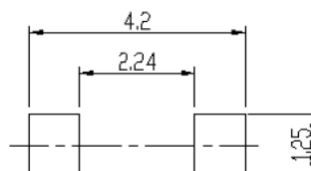
in inches (millimeters)

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



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