

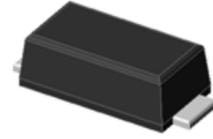
1A,20-200V Schottky Barrier Rectifiers

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	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							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 +125			-55 to +150		-55 to +175		°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 _{θJA}	100	°C /W
Thermal Resistance, Junction to Case	R _{θJC}	20	°C /W
Thermal Resistance, Junction to Lead	R _{θJL}	20	°C /W



Electrical Specifications (T _A =25°C unless otherwise noted)										
Parameter	Symbol	Test Conditions	FS12	FS13	FS14	FS16	FS1B	FS1B5H	FS1CH	Unit
Forward Drop Voltage	V _F	I _F =0.5A	0.40	0.45		0.55	0.75	0.80		V
		I _F =1A	0.50			0.70	0.81	0.90		
Reverse leakage current @VR	I _R	T _J =25°C	0.20				0.15	0.20		mA
		T _J =125°C	10	30		20				
Typical junction capacitance	C _J	4.0 V 1 MHz	51			34	28		pF	

Note:

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

Ratings and Characteristics Curves

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

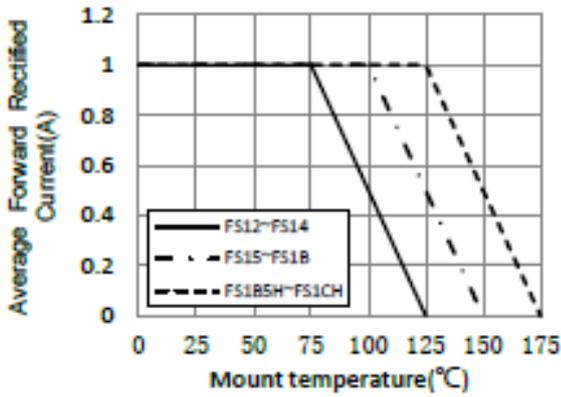


Figure 1. Forward Current Derating Curve

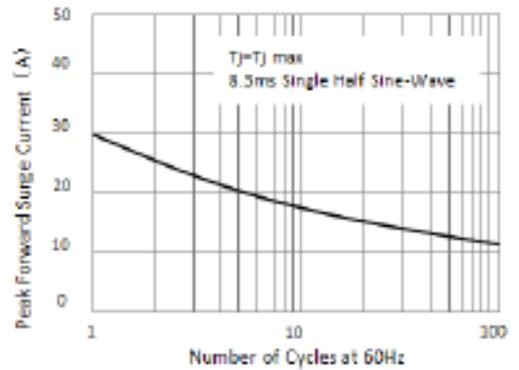


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

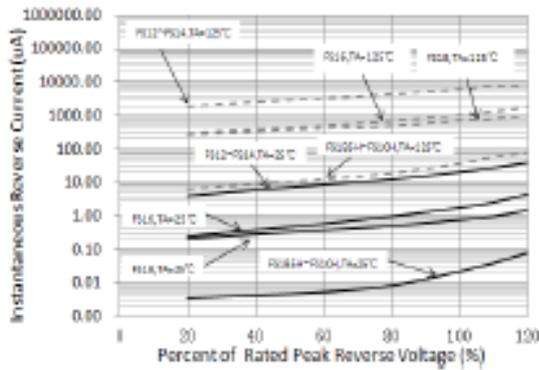


Figure 3. Typical Instantaneous Reverse Characteristics

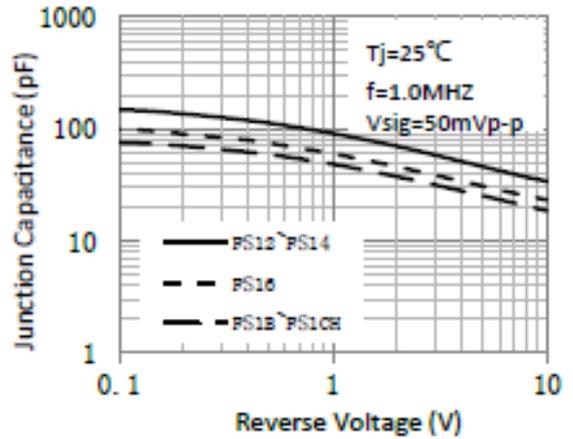


Figure 4. Typical Junction Capacitance

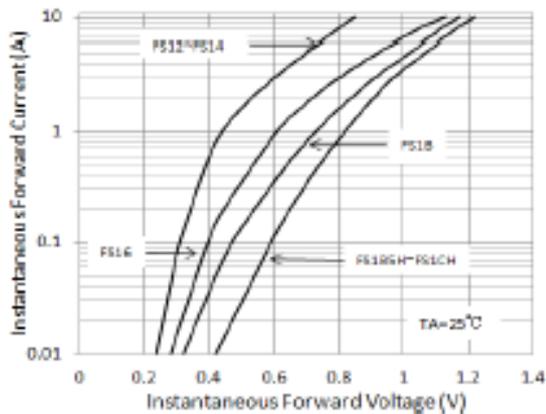
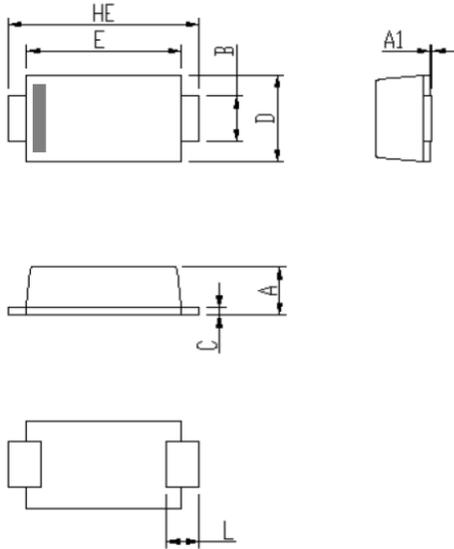


Figure 5. Typical Instantaneous Forward Characteristics

Package Outline Dimensions

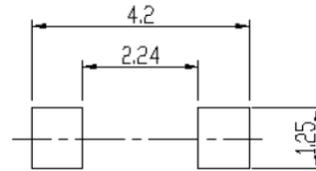
in inches (millimeters)

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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