

Surface Mount Schottky Rectifier

Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- High forward surge capability
- AEC-Q101 qualified
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

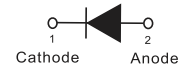
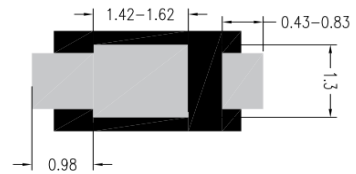
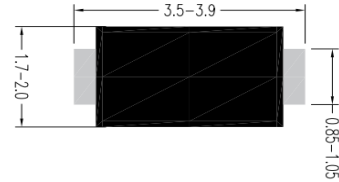
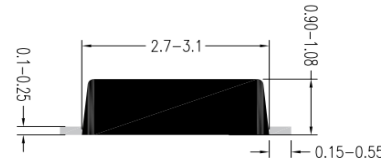
For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

Mechanical Date

- **Package:** SOD-123HE
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

SOD-123HE

Unit : inch(mm)



■Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S12HE-Q	S13HE-Q	S14HE-Q	S15HE-Q	S16HE-Q	S18HE-Q	S110HE-Q	S115HE-Q	S120HE-Q	
Repetitive peak reverse voltage	VRRM	V	20	30	40	50	60	80	100	150	200	
Average rectified output current @60Hz sine wave, Resistance load, T_a (FIG.1)	I_O	A	1.0									
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, $T_j=25^\circ\text{C}$	IFSM	A	30									
Storage temperature	T_{stg}	$^\circ\text{C}$	-55 ~+150									
Junction temperature	T_j	$^\circ\text{C}$	-55 ~+150					-55 ~+175				

■Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	S12HE-Q	S13HE-Q	S14HE-Q	S15HE-Q	S16HE-Q	S18HE-Q	S110HE-Q	S115HE-Q	S120HE-Q
Maximum instantaneous forward voltage drop per diode	V_F	V	IFM=1.0A	0.50			0.65		0.80		0.85	
Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM	IRRM	mA	$T_a=25^\circ\text{C}$	0.10					0.05			
			$T_a=100^\circ\text{C}$	10					5			

■ Thermal Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S12HE-Q	S13HE-Q	S14HE-Q	S15HE-Q	S16HE-Q	S18HE-Q	S110HE-Q	S115HE-Q	S120HE-Q
Thermal Resistance	R θ J-A	$^\circ\text{C}/\text{W}$	70 ¹⁾								
	R θ J-L		20 ¹⁾								

Note:
(1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas.

■ Characteristics (Typical)

FIG1: Io-TL Curve

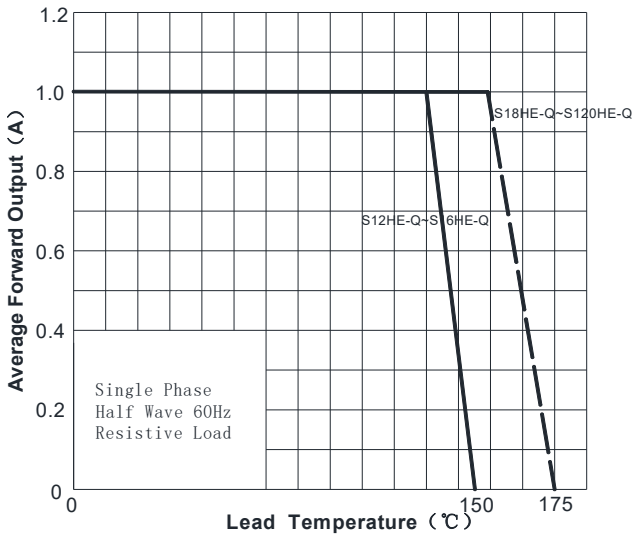


FIG2: Surge Forward Current Capability

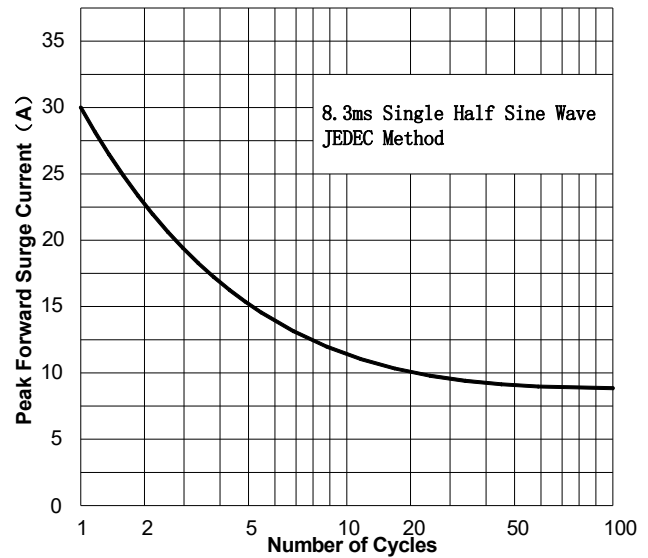


FIG3: Forward Voltage

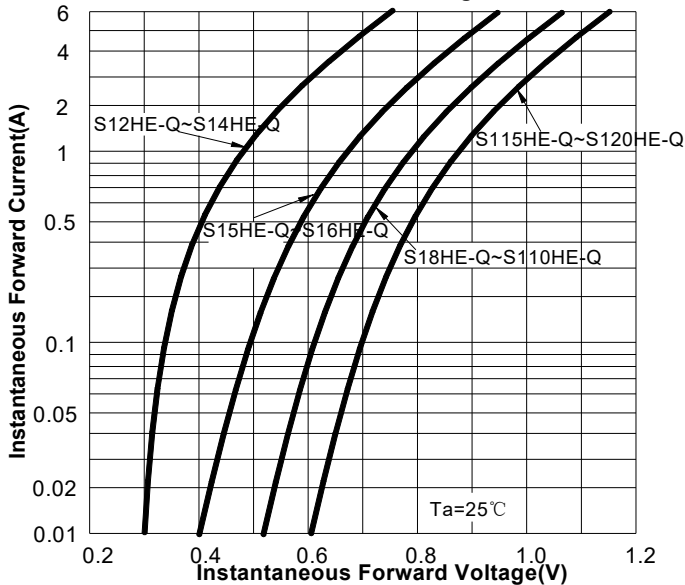


FIG4: Typical Reverse Characteristics

