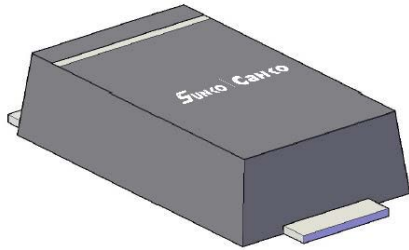


Surface Mount Schottky Rectifier

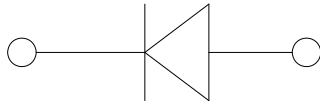


Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- High forward surge capability
- 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 Data

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

■Maximum Ratings (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S12E	S13E	S14E	S15E	S16E	S18E	S110E	S115E	S120E
Device marking code			S12E	S13E	S14E	S15E	S16E	S18E	S110E	S115E	S120E
Repetitive peak reverse voltage	VRRM	V	20	30	40	50	60	80	100	150	200
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I _O	A	1.0								
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, T _j =25°C	I _{FSM}	A	30								
Storage temperature	T _{stg}	°C	-55 ~+175								
Junction temperature	T _j	°C	-55 ~+125					-55 ~+175			

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	S12E	S13E	S14E	S15E	S16E	S18E	S110E	S115E	S120E
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =1.0A	0.50			0.70		0.85		0.90	
Maximum DC reverse current at rated DC blocking voltage per diode @ V _{RM} =V _{RRM}	I _{RRM}	mA	T _a =25°C	0.50					0.10			
			T _a =100°C	10					5			

Note1:Pulse test:300uS pulse width,1% duty cycle

Note2:Pulse test:pulse width 40mS

S12E THRU S120E

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

PARAMETER	SYMBOL	UNIT	S12E	S13E	S14E	S15E	S16E	S18E	S110E	S115E	S120E
Thermal Resistance	$R_{\theta J-A}$	$^{\circ}\text{C/W}$	90 ⁽¹⁾								
	$R_{\theta J-L}$		30 ⁽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: I_o - T_L Curve

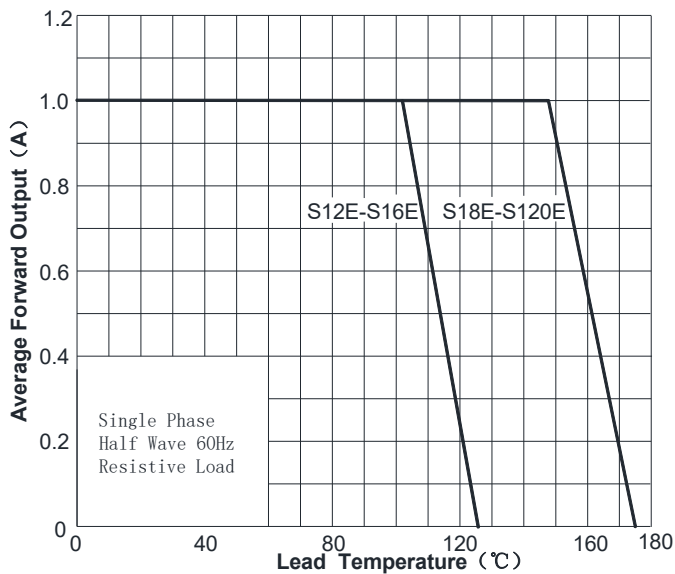


FIG2: Surge Forward Current Capability

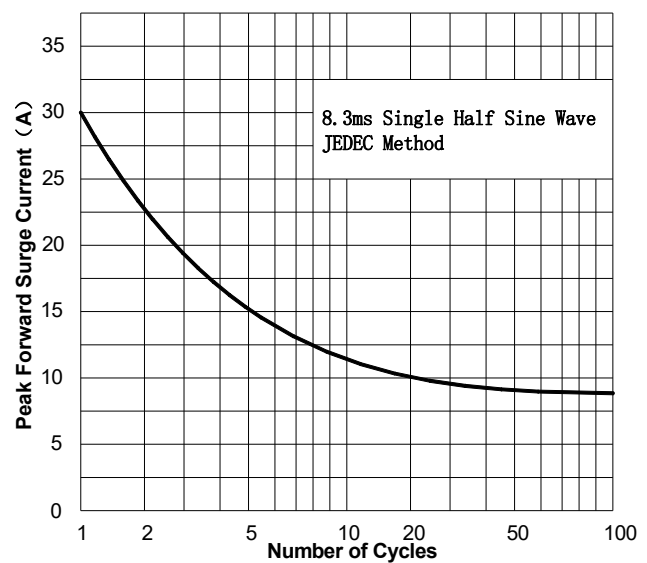


FIG3: Forward Voltage

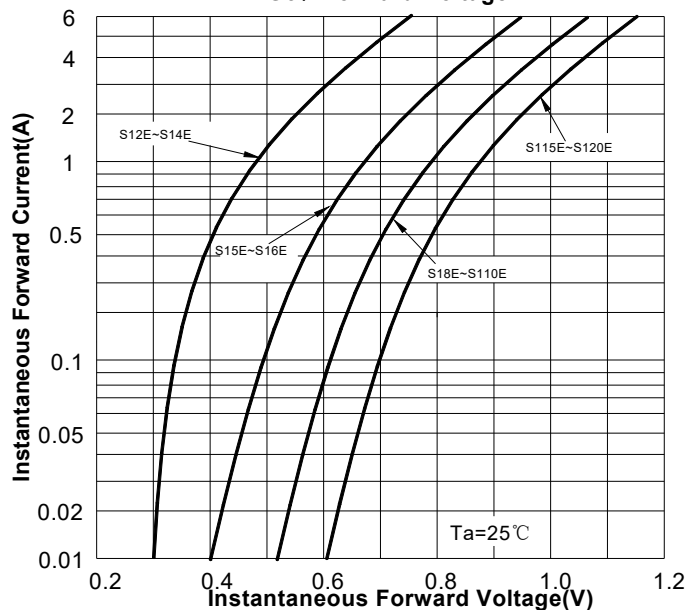
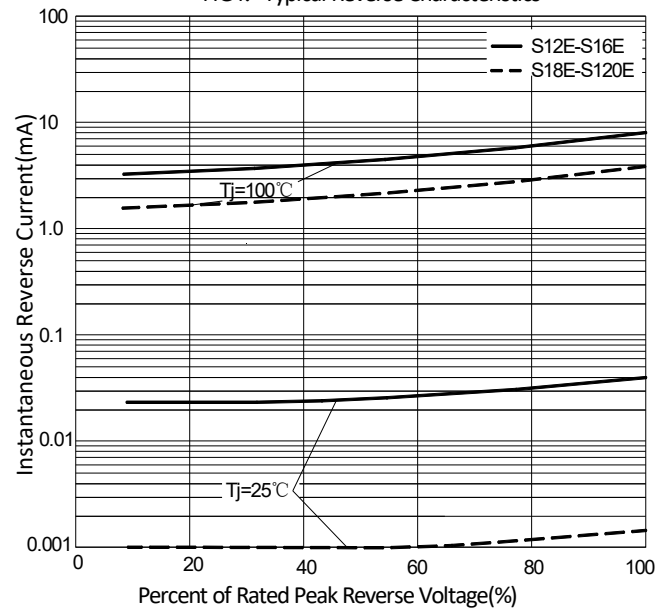
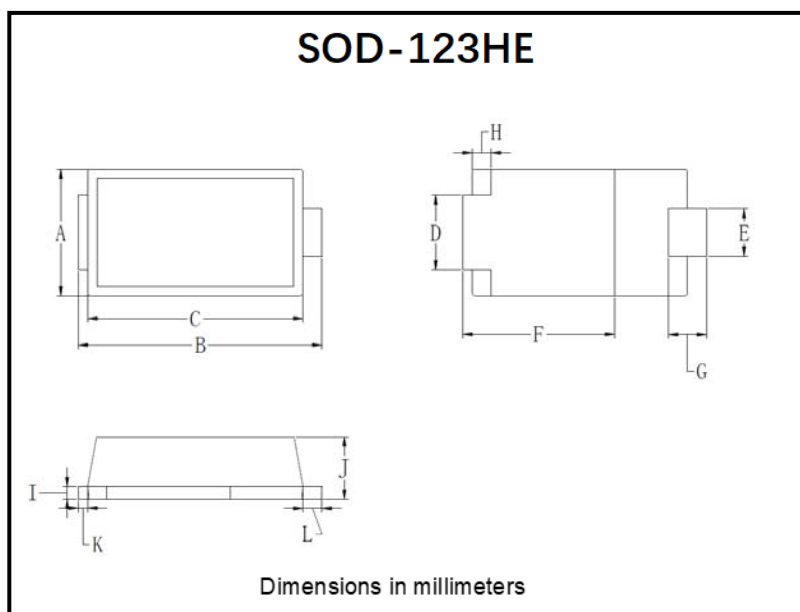


FIG4: Typical Reverse Characteristics

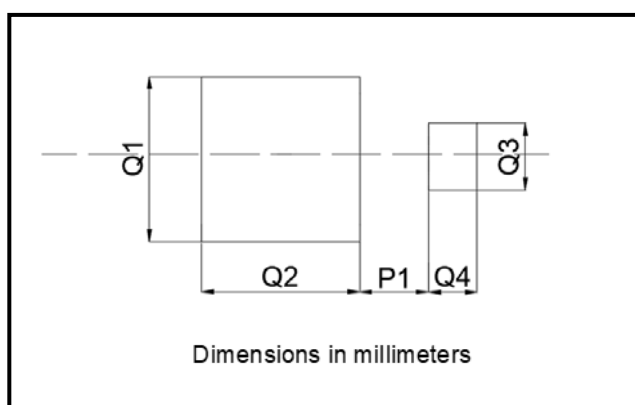


■ Outline Dimensions



SOD-123HE		
Dim	Min	Max
A	1.88	2.18
B	3.70	4.00
C	3.19	3.61
D	1.05	1.35
E	0.61	0.91
F	2.20	2.90
G	0.40	0.80
H	0.30 TYP	
I	0.10	0.30
J	0.85	1.15
K	0.00	0.30
L	0.15	0.45

■ Suggested pad layout



SOD-123HE	
Dim	Millimeters
P1	0.64
Q1	2.54
Q2	2.67
Q3	1.27
Q4	0.76

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