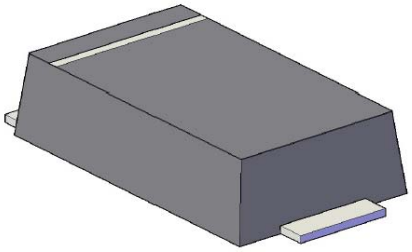
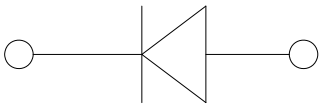
Surface Mount Schottky Rectifier





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 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

■Maximum Ratings (T_a=25℃ 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	V_{RRM}	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, Tj=25℃	I_{FSM}	A	30								
Storage temperature	T_{stg}	℃	-55 ~+175								
Junction temperature	T_j	℃	-55 ~+125					-55 ~+175			

■Electrical Characteristics (T_a=25℃ 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 @ VRM=VRRM	I_{RRM}	mA	T_a=25℃	0.50					0.10			
			T_a=100℃	10					5			

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

Note2:Pulse test:pulse widh 40mS

■Thermal Characteristics (T_a=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S12E	S13E	S14E	S15E	S16E	S18E	S110E	S115E	S120E
Thermal Resistance	$R_{\theta J-A}$	℃/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:Io-TLCurve

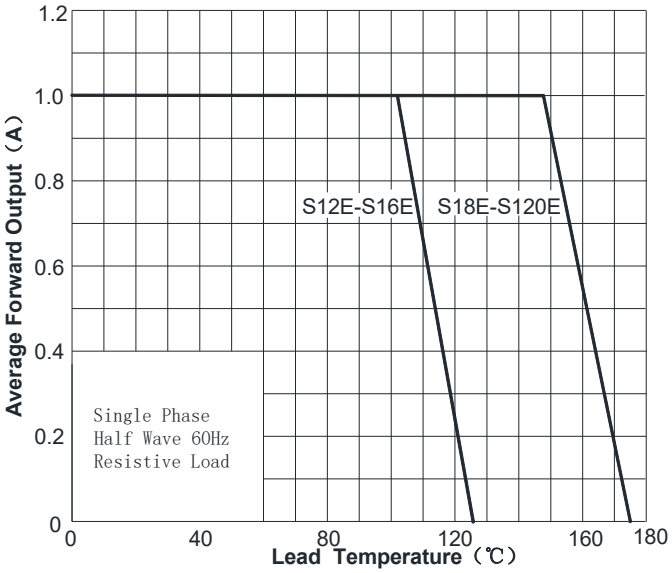


FIG2: Surge Forward Current Capability

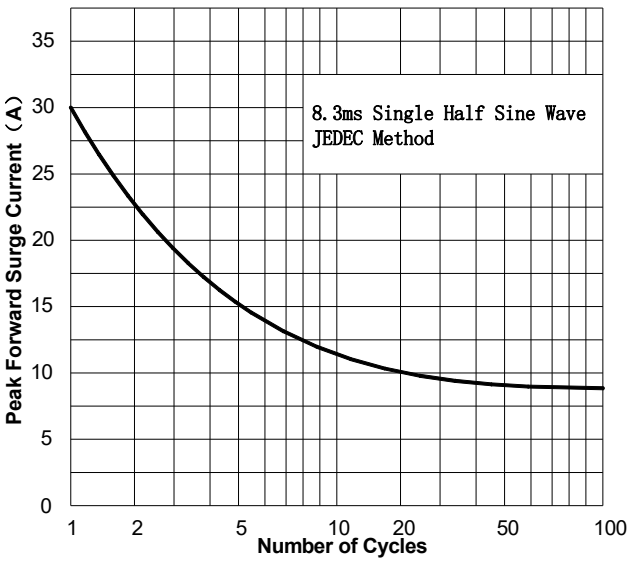


FIG3：Forward Voltage

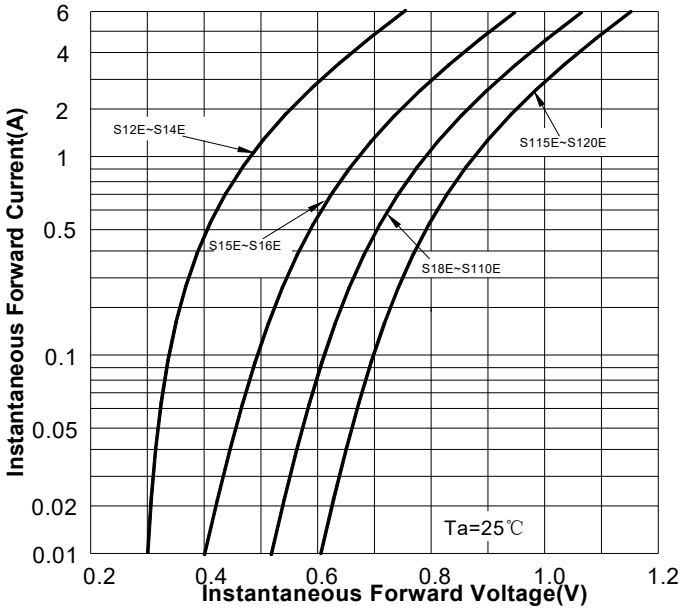
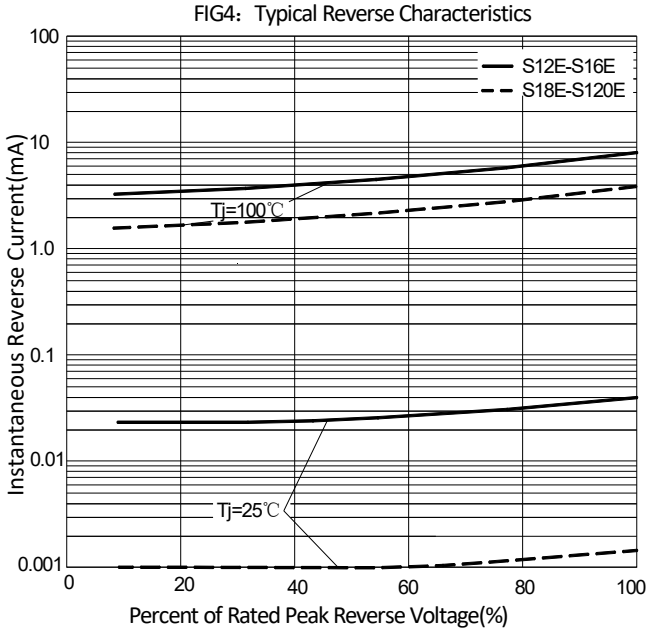
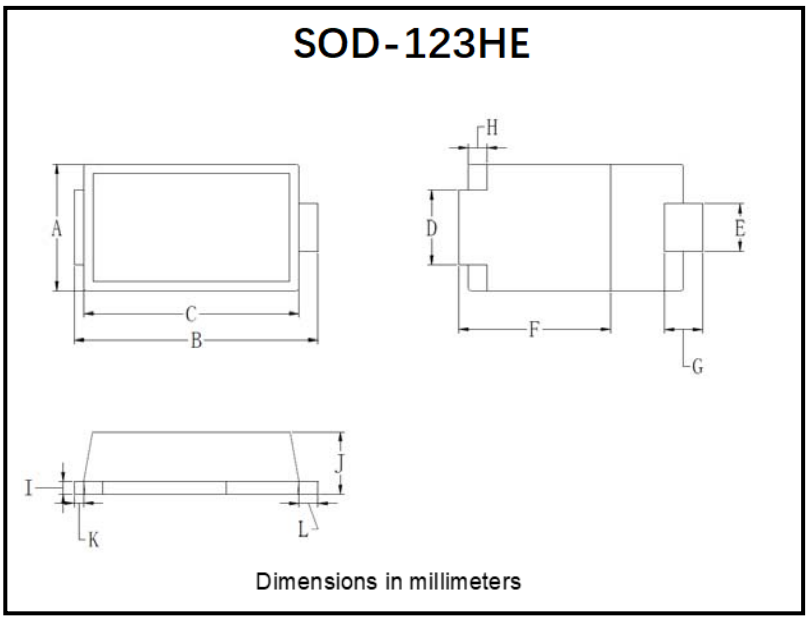


FIG4：Typical Reverse Characteristics

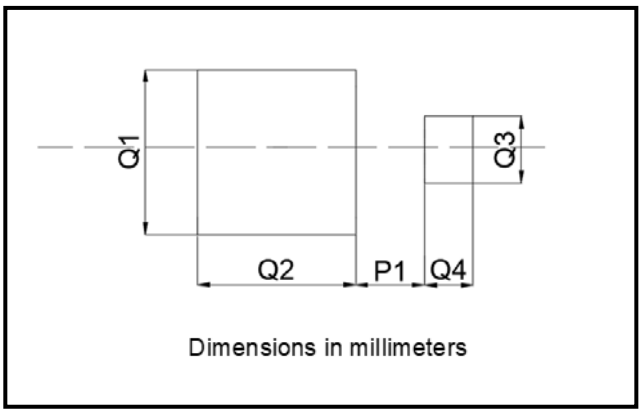


■ Outline Dimensions



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

Notice

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise. Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.