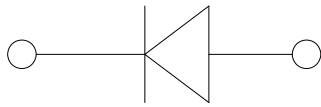
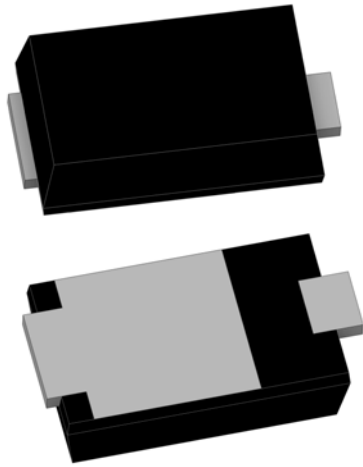


Surface Mount Schottky Rectifier



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
- Part no. with suffix "Q" means AEC-Q101 qualified

Typical Applications

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

Mechanical Data

- **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 ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S115EQ	S120EQ
Device marking code			S115E	S120E
Repetitive peak reverse voltage	V_{RRM}	V	150	200
Maximum RMS voltage	V_{RMS}	V	105	140
Maximum DC blocking voltage	V_{DC}	V	150	200
Average rectified output current @60Hz sine wave, resistance load, T_L (Fig.1)	I_O	A	1.0	
Surge(non-repetitive)forward current @60Hz half-sine wave, 1 cycle, $T_J=25^\circ\text{C}$	I_{FSM}	A	40	
Voltage rate of change (rated V_R)	dV/dt	V/ μs	10000	
Storage temperature	T_{stg}	$^\circ\text{C}$	-55~+175	
Junction temperature	T_J	$^\circ\text{C}$	-55~+175	

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

PARAMETER	SYMBOL	TEST CONDITIONS		TYP	MAX	UNIT
Instantaneous forward voltage	V_F	$I_F=1\text{A}$	$T_J=25^\circ\text{C}$	0.785	0.9	V
			$T_J=125^\circ\text{C}$	-	0.78	
Reverse current	I_R	Rated V_R	$T_J=25^\circ\text{C}$	-	1	μA
			$T_J=125^\circ\text{C}$	-	1	mA
Typical junction capacitance	C_J	$V_R=4\text{V}, f=1\text{MHz}$		30	-	pF



S115EQ THRU S120EQ

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

PARAMETER	SYMBOL	UNIT	S115EQ	S120EQ
Typical Thermal Resistance	R _{θJ-A}	°C/W	98	
	R _{θJ-l}	°C/W	30	
	R _{θJ-c}	°C/W	15	

Note:
 (1) Thermal resistance from junction to ambient and from junction to lead and from junction to case mounted on P.C.B. with 5 mm x 5 mm copper pad areas.

■ Characteristics (Typical)

Fig.1:Forward Current Derating Curve

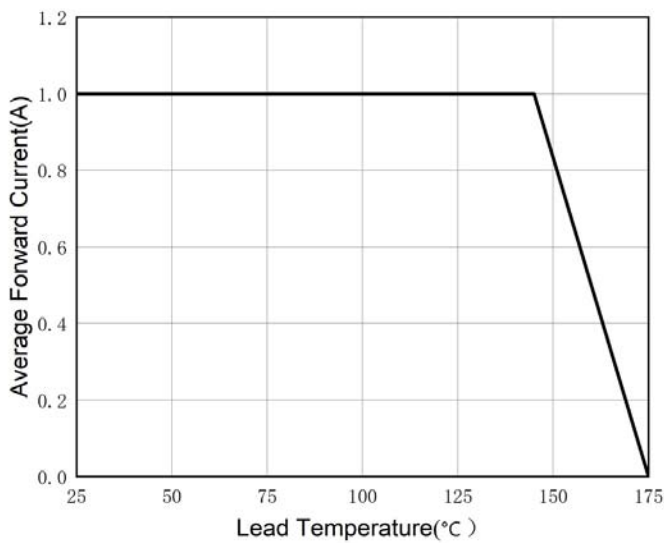


Fig.2:Maximum Non-Repetitive Peak Forward Surge Current

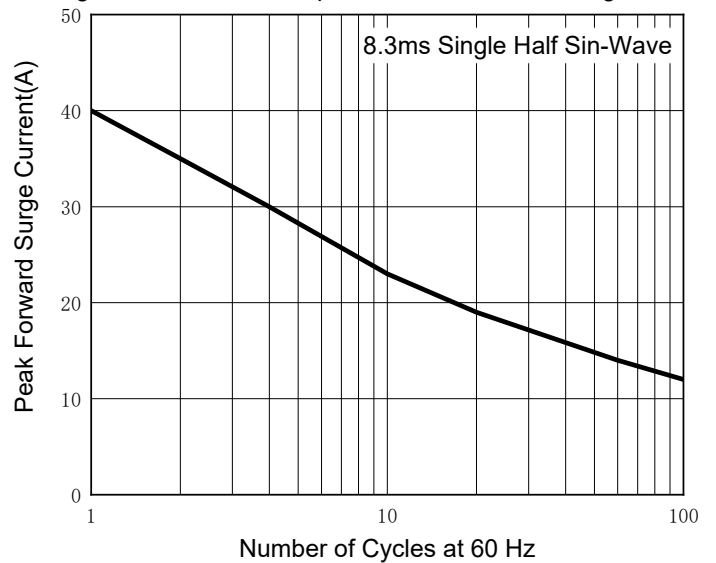


Fig.3:Typical Instantaneous Forward Characteristics

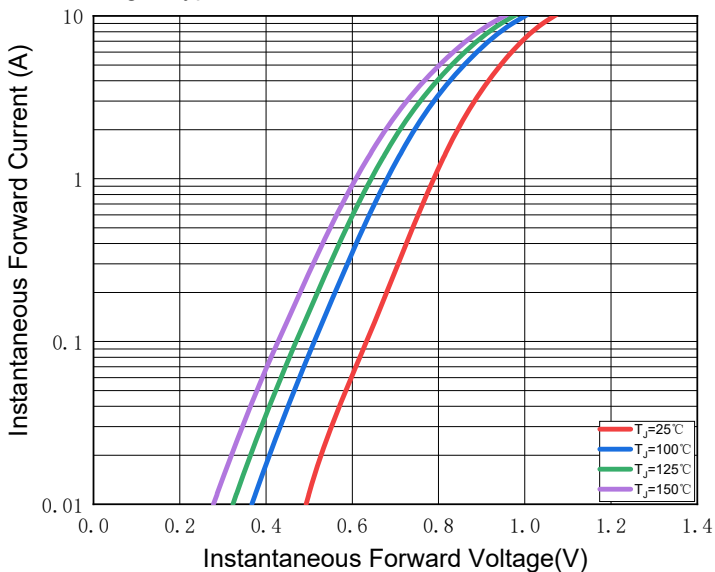
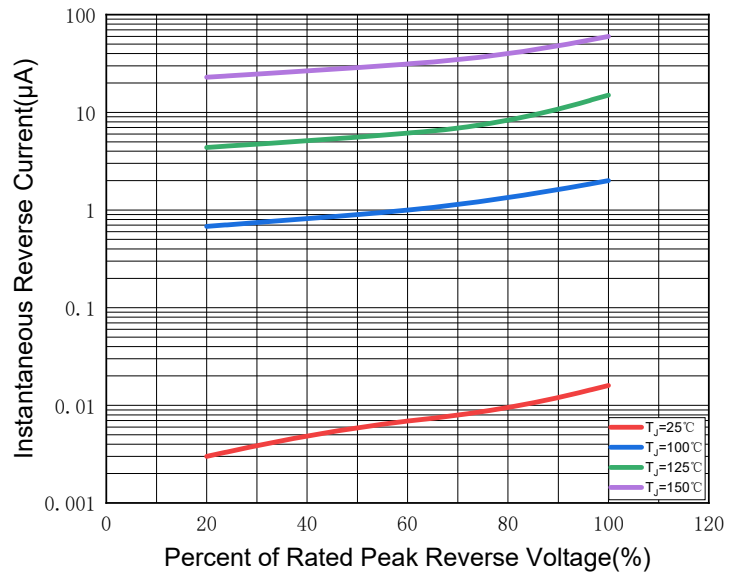


Fig.4:Typical Reverse Leakage Characteristics



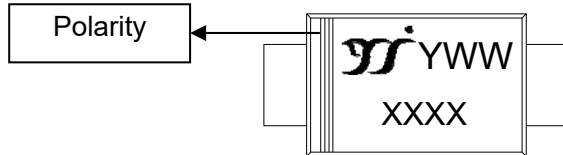


S115EQ THRU S120EQ

Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
S115EQ THRU S120EQ	F1	Approximate 0.024	3000	120000	7" reel

Marking Information



Note:

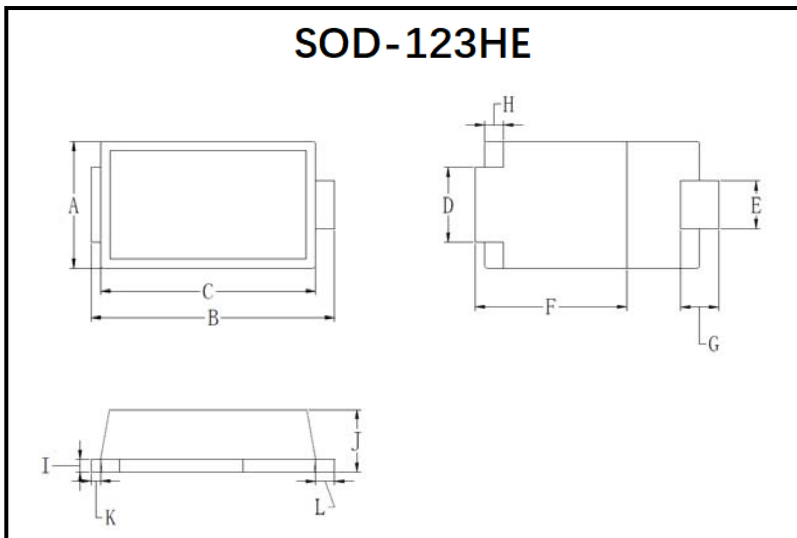
1. All marking is at middle of the product body
2. All marking is in laser printing
3. XXX is marking code, like S120EQ marking code is S120E
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 17th week of 2022, date code is 217

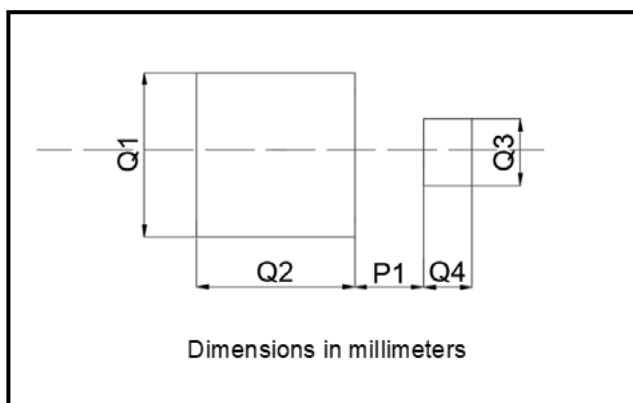
The 17th week of 2023, date code is 317

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



S115EQ THRU S120EQ

Disclaimer

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