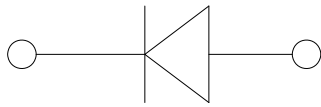
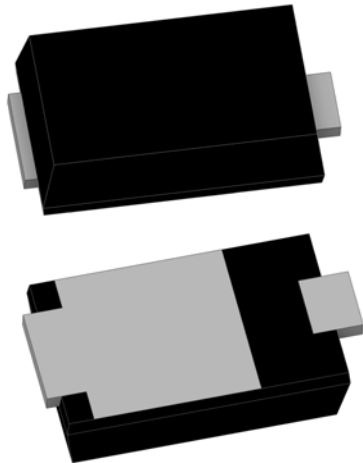


Surface Mount Schottky Rectifier



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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S12EQ	S13EQ	S14EQ
Device marking code			S12E	S13E	S14E
Repetitive peak reverse voltage	V _{RRM}	V	20	30	40
Maximum RMS voltage	V _{RMS}	V	14	21	28
Maximum DC blocking voltage	V _{DC}	V	20	30	40
Maximum average forward rectified current at T _L (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	40		
Voltage rate of change (rated V _R)	dV/dt	V/μs	10000		
Storage temperature	T _{stg}	°C	-55 ~+150		
Junction temperature	T _J	°C	-55 ~+150		

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

PARAMETER	SYMBOL	TEST CONDITIONS		TYP	MAX	UNIT
Instantaneous forward voltage	V _F	I _F =1A	T _J =25°C	0.45	0.5	V
			T _J =125°C	-	0.4	
Reverse current	I _R	Rated V _R	T _J =25°C	-	200	μA
			T _J =125°C	-	20	mA
Typical junction capacitance	C _J	V _R =4V,f=1MHz		100	-	pF



S12EQ THRU S14EQ

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

PARAMETER	SYMBOL	UNIT	S12EQ	S13EQ	S14EQ
Typical Thermal Resistance	R _{θJA}	°C/W	98		
	R _{θJL}	°C/W	30		
	R _{θJC}	°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

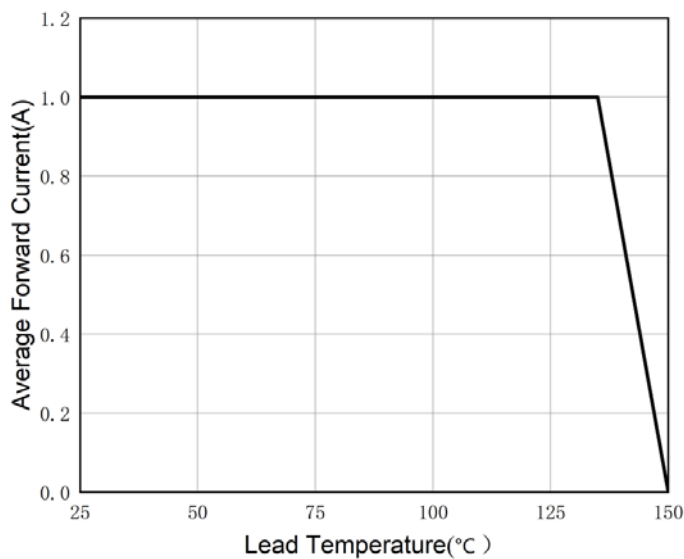


Fig.2:Maximum Non-Repetitive Peak Forward Surge Current

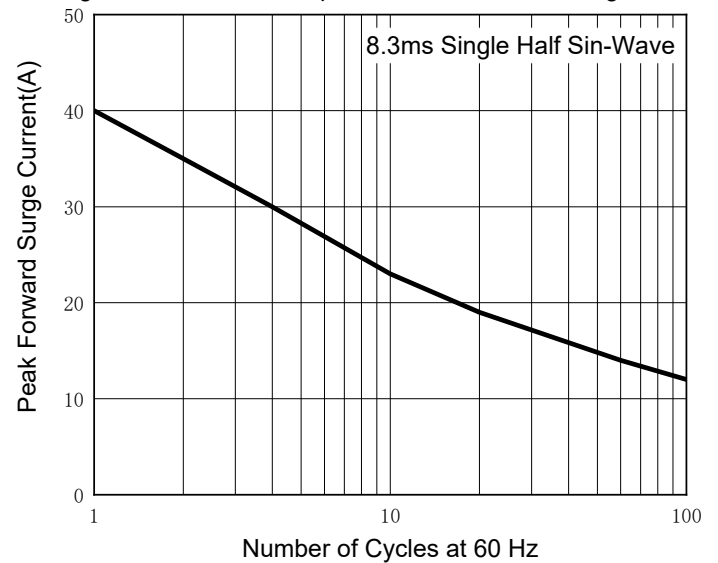


Fig.3:Typical Instantaneous Forward Characteristics

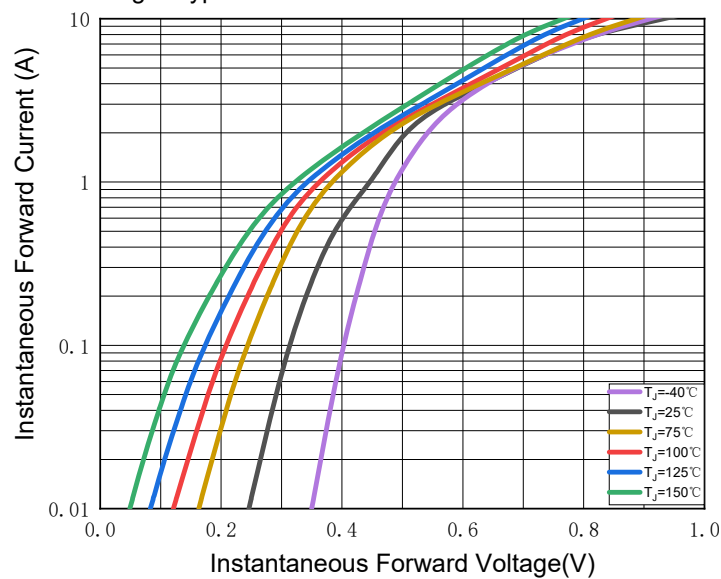
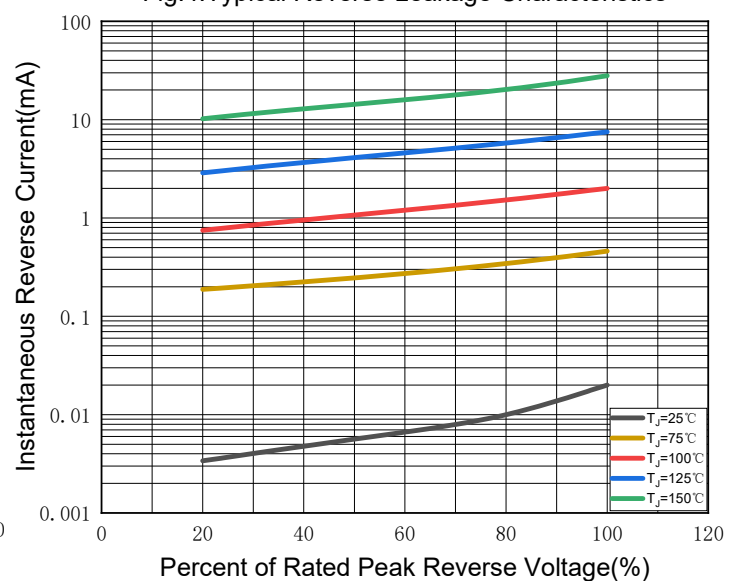


Fig.4:Typical Reverse Leakage Characteristics



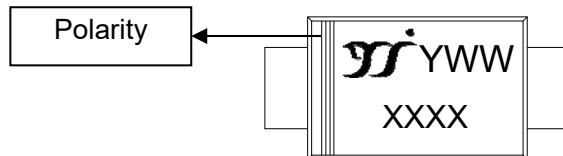


S12EQ THRU S14EQ

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
S12EQ THRU S14EQ	F1	Approximate 0.024	3000	120000	7" reel

■ Marking Information



Note:

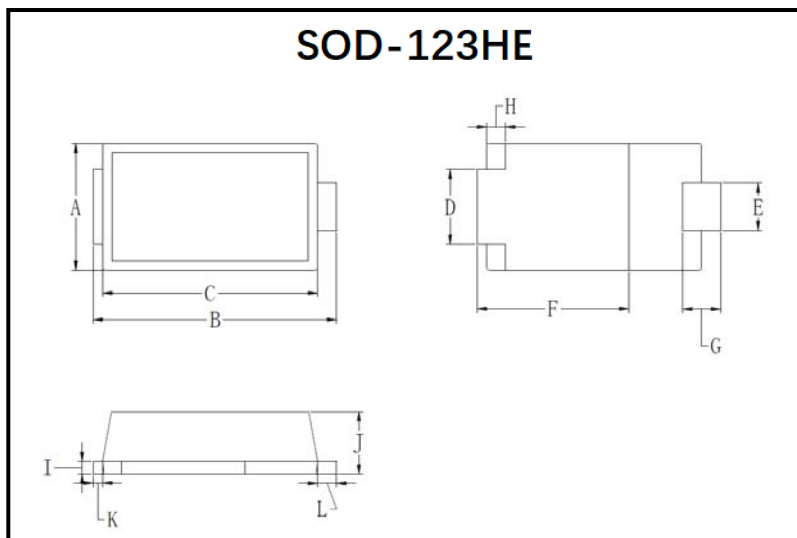
1. All marking is at middle of the product body
2. All marking is in laser printing
3. XXX is marking code, like S14EQ marking code is S14E
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 17th week of 2022, date code is 217

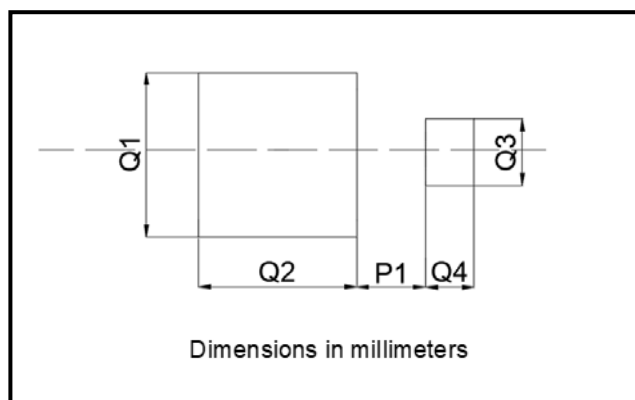
The 17th week of 2023, date code is 317

■ 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



S12EQ THRU S14EQ

Disclaimer

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