

Surface Mount Schottky Rectifier

Features

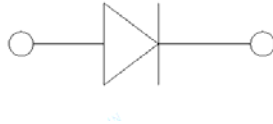
- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Part no. with suffix "Q" means AEC-Q101 qualified

Typical Applications

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

Mechanical Date

- **Package:** SOD-323HT
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_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	FM12TQ
Device marking code			12T
Repetitive peak reverse voltage	V _{RRM}	V	20
Maximum RMS voltage	V _{RMS}	V	14
Maximum DC blocking voltage	V _{DC}	V	20
Maximum average forward rectified current at T _L (Fig.1)	I _{F(AV)}	A	1.0
Surge(non-repetitive)forward current @60Hz half-sine wave, 1 cycle, T _J =25°C	I _{FSM}	A	25
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	0.41	0.47	V
			T _J =125°C	-	0.36	
Reverse current	I _R	Rated V _R	T _J =25°C	8	50	uA
			T _J =125°C	-	20	mA
Typical junction capacitance	C _J	V _R =4V, f=1MHz		75	-	pF



FM12TQ

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

PARAMETER	SYMBOL	UNIT	FM12TQ
Thermal resistance	$R_{\theta J-A}$	$^{\circ}\text{C}/\text{W}$	270
	$R_{\theta J-C}$		40

Note:

(1) Thermal resistance from junction to ambient and from junction to case mounted on P.C.B without copper pad areas.

■ Characteristics(Typical)

Figure.1: I_O - T_C Curve

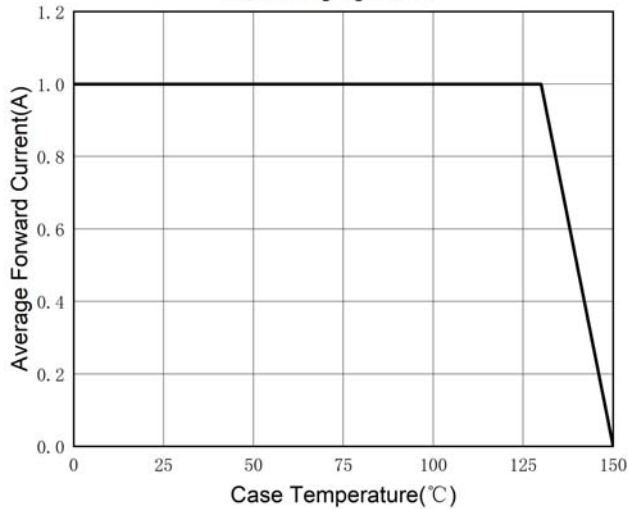


Fig.2: Forward Surge Current Capability

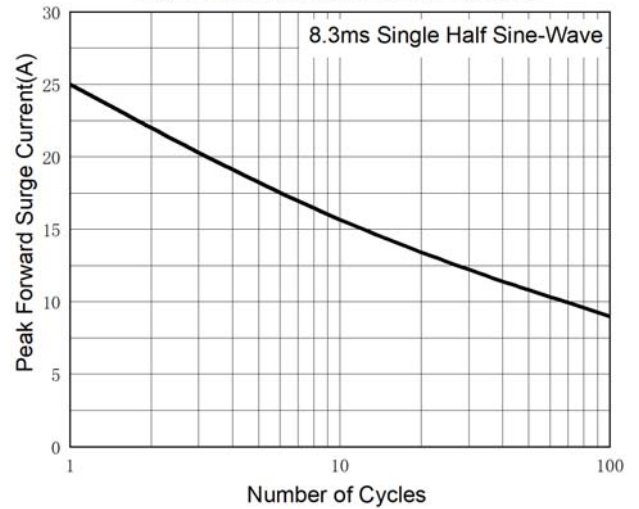


Fig.3: Typical Instantaneous Forward Characteristics

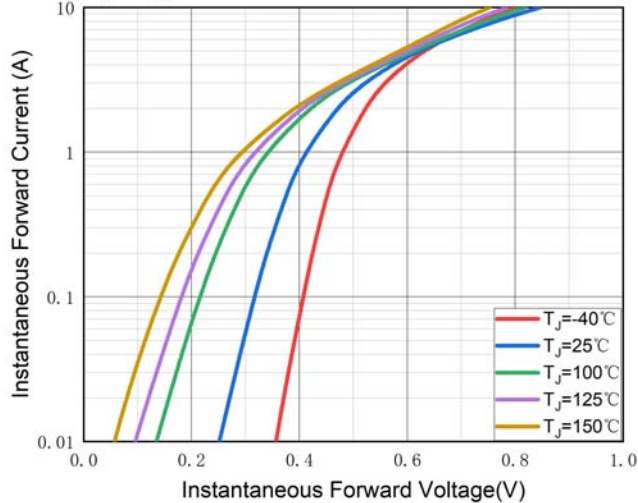
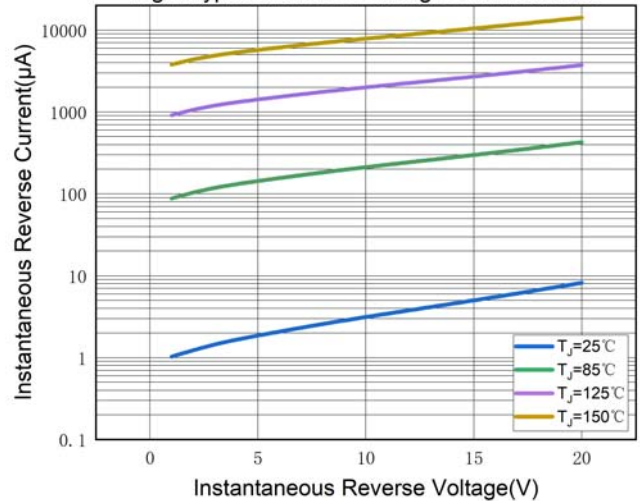


Fig.4: Typical Reverse Leakage Characteristics



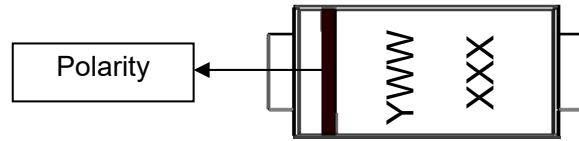
■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
FM12TQ	F1	Approximate 0.0064	3000	120000	7" reel



FM12TQ

■ Marking Information



Note:

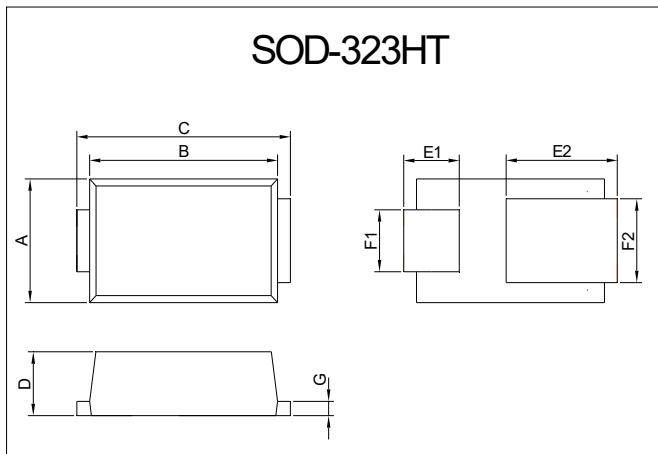
1. All marking is at middle of the product body
2. All marking is in laser printing
3. XXX is marking code, like FM12TQ marking code is 12T
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 17th week of 2022, date code is 217

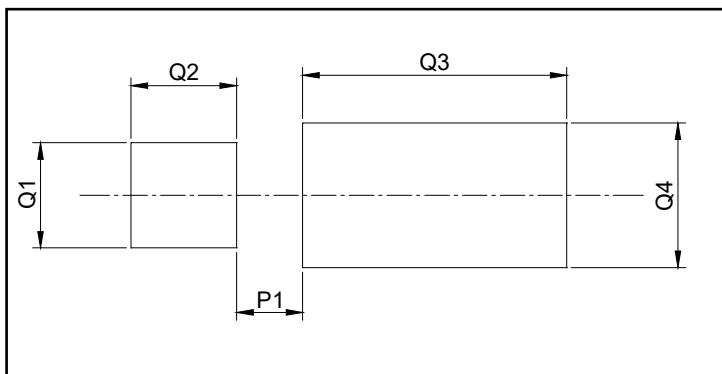
The 17th week of 2023, date code is 317

■ Outline Dimensions



SOD-323HT		
Dim	Millimeters	
	Min	Max
A	1.20	1.40
B	2.10	2.30
C	2.30	2.70
D	0.63	0.73
E1	0.55	0.75
E2	1.10	1.50
F1	0.55	0.75
F2	0.78	0.98
G	0.12	0.27

■ Suggested pad layout



SOD-323HT(mm)	
Dim	Millimeters
P1	0.5
Q1	0.8
Q2	0.8
Q3	2
Q4	1.1



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