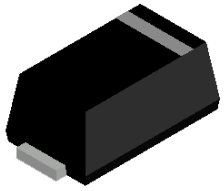
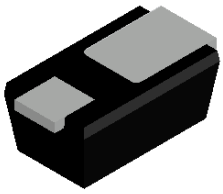
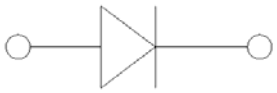
Surface Mount General Purpose Rectifier







Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- 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 general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, automotive and telecommunication.

Mechanical Date

- **Package**: SOD-323HE
  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 (Ta=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	FMG1AEQ	FMG1BEQ	FMG1DEQ	FMG1GEQ	FMG1JEQ
Device marking code			**1A**	**1B**	**1D**	**1G**	**1J**
Repetitive peak reverse voltage	V_{RRM}	V	50	100	200	400	600
Maximum RMS voltage	V_{RMS}	V	35	70	140	280	420
Maximum average forward rectified current at T_L (Fig.1)	$IF_{(AV)}$	A	1.0				
Surge(non-repetitive)forward current @ 60Hz half-sine wave,1 cycle, T_J=25℃	I_{FSM}	A	18				
Current Squared Time @1ms≤t<8.3ms Tj=25℃	I^2t	A^2s	1.34				
Storage temperature	T_{STG}	℃	-55 ~+175				
Junction temperature	T_J	℃	-55 ~+175				

■Electrical Characteristics（Ta=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	FMG1AEQ	FMG1BEQ	FMG1DEQ	FMG1GEQ	FMG1JEQ
Maximum instantaneous forward voltage drop per diode	V_F	V	I_F=1.0A	1.1				
Typical junction capacitance	C_J	pF	V_R=4V,1 MHz	5				
Maximum DC reverse current at rated DC blocking voltage per diode	I_{RRM}	μA	T_J=25℃	5				
			T_J=125℃	50				

■ **Characteristics**(Typical)

Fig.1:Forward Current Derating Curve

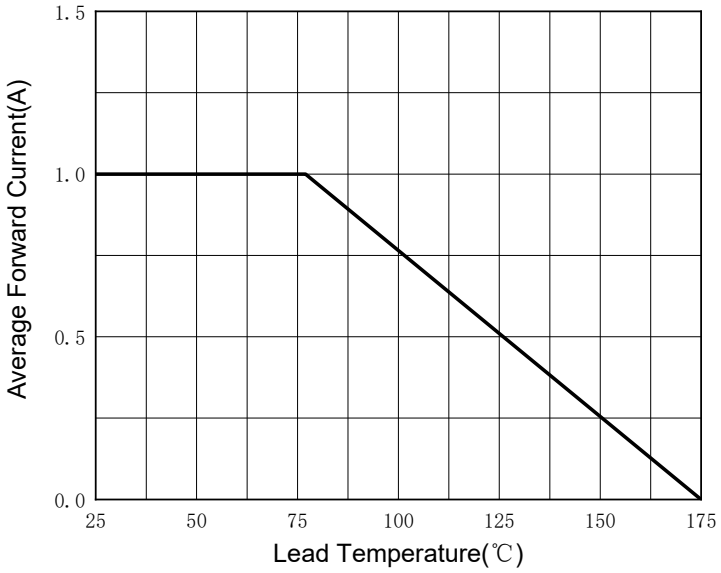


Fig.2:Forward Surge Current Capability

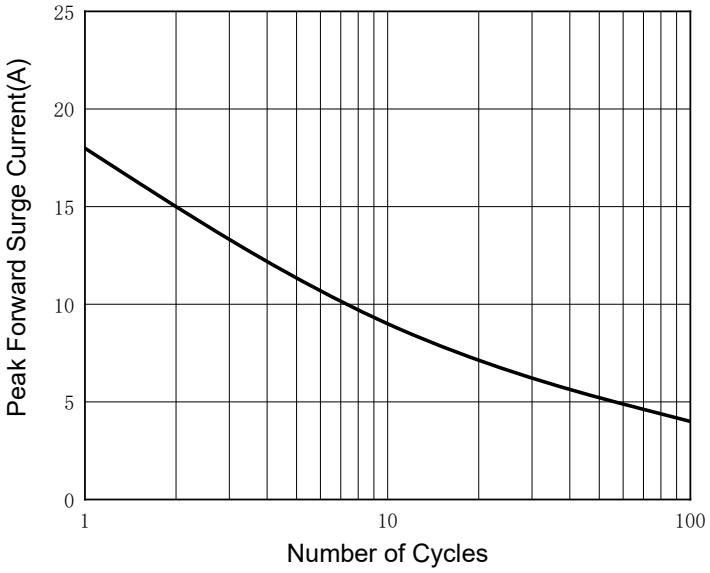


Fig.3:Typical Instantaneous Forward Characteristics

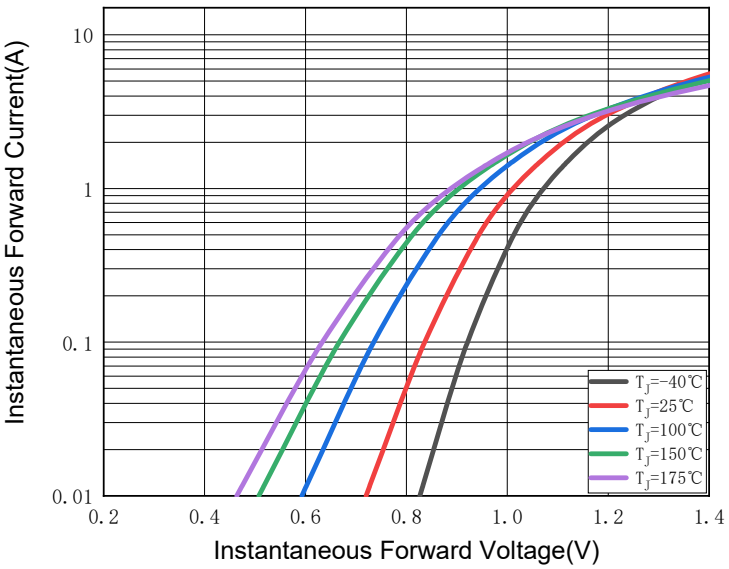
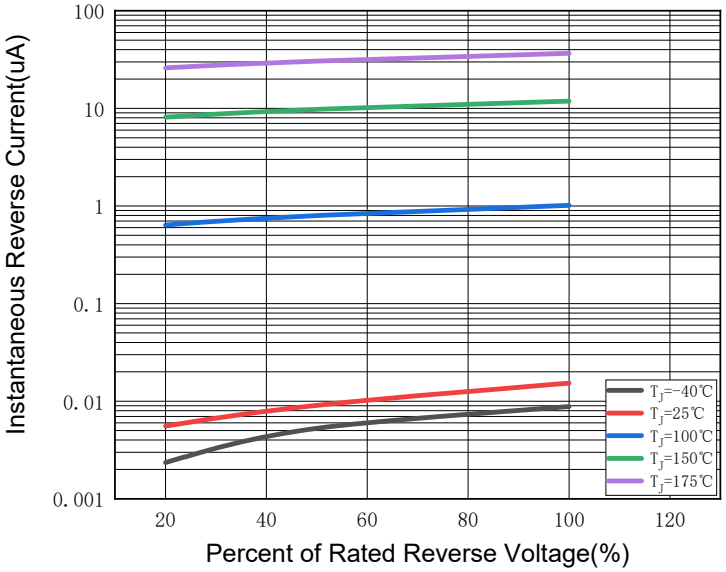


Fig.4:Typical Reverse Characteristics



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

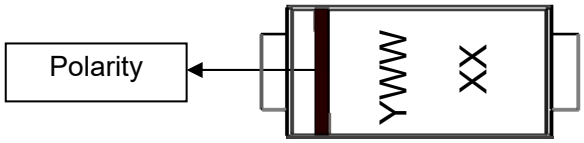
PARAMETER	SYMBOL	UNIT	FMG1AEQ	FMG1BEQ	FMG1DEQ	FMG1GEQ	FMG1JEQ
Thermal resistance	$R_{\theta J-A}$	℃/W	270 (1)				
	$R_{\theta J-L}$		90 (1)				
	$R_{\theta J-SP}$		10 (2)				

Note:

(1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B without copper pad areas.

(2) Thermal resistance between junction and cathode tab solder point.

■ Marking Information



Note:
1. All marking is at middle of the product body
2. All marking is in laser printing
3. XX is marking code, like FMG1JEQ marking code is 1J
4. Body color: Black
5. YWW is date code, “Y” is year. “WW” is week.

For instance:

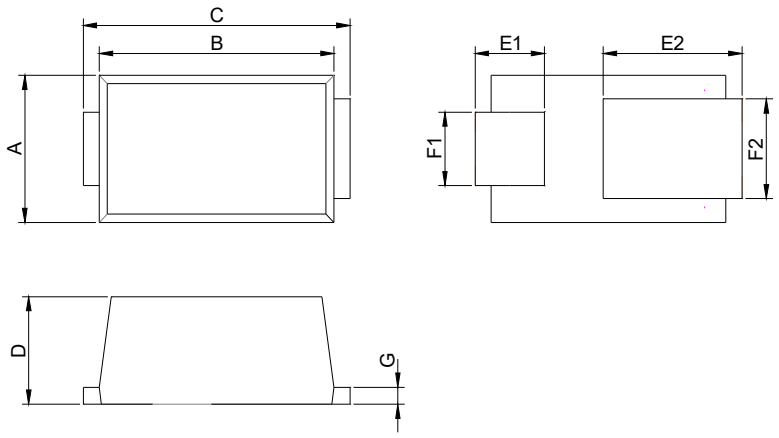
The 17th week of 2022, date code is 217

The 17th week of 2023, date code is 317

■Ordering Information (Example)

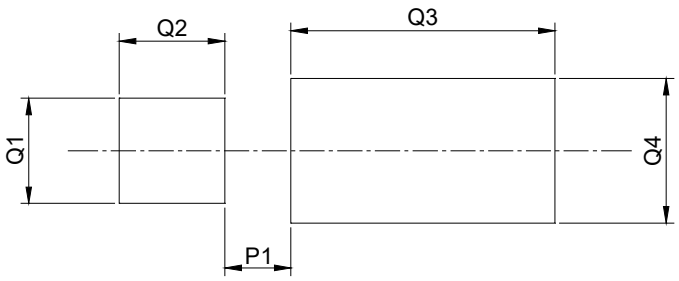
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
FMG1AEQ~ FMG1JEQ	F1	Approximate 0.008	3000	120000	7” reel

■ Outline Dimensions



SOD-323HE		
Dim	Millimeters	
	Min	Max
A	1.20	1.40
B	2.10	2.30
C	2.30	2.70
D	0.90	1.00
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-323HE	
Dim	Millimeters
P1	0.50
Q1	0.80
Q2	0.80
Q3	2.00
Q4	1.10

Disclaimer

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