

Surface Mount Schottky Rectifier

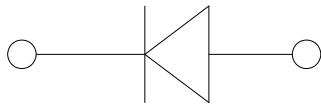


Features

- 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:** DO-214AC (SMA)
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	SS38AQ	SS310AQ
Device marking code			SS38A	SS310A
Repetitive peak reverse voltage	V _{RRM}	V	80	100
Maximum RMS voltage	V _{RMS}	V	56	70
Maximum DC blocking voltage	V _{DC}	V	80	100
Maximum average forward rectified current at T _L (Fig.1)	I _O	A	3.0	
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, T _J =25°C	I _{FSM}	A	80	
Voltage rate of change (rated V _R)	dV/dt	V/μs	10000	
Storage temperature	T _{stg}	°C	-55 ~+175	
Junction temperature and storage temperature	T _J	°C	-55 ~+175	

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

PARAMETER	SYMBOL	TEST CONDITIONS	TYP	MAX	UNIT	
Instantaneous forward voltage	V _F	I _F =3A	T _J =25°C	0.76	0.8	V
			T _J =125°C	0.63	0.75	
Reverse current	I _R	Rated V _R	T _J =25°C	-	1	μA
			T _J =125°C	-	150	
Typical junction capacitance	C _J	V _R =4V,f=1MHz	95	-	pF	



SS38AQ THRU SS310AQ

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

PARAMETER	SYMBOL	UNIT	SS38AQ	SS310AQ
Thermal Resistance	$R_{\theta J-A}$	$^\circ\text{C}/\text{W}$	55 ⁽¹⁾	
	$R_{\theta J-L}$		17 ⁽¹⁾	
	$R_{\theta J-C}$		14 ⁽¹⁾	

Note

(1) Thermal resistance from junction to ambient and from junction to lead and from junction to case mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

■ Characteristics (Typical)

Fig.1: Forward Current Derating Curve

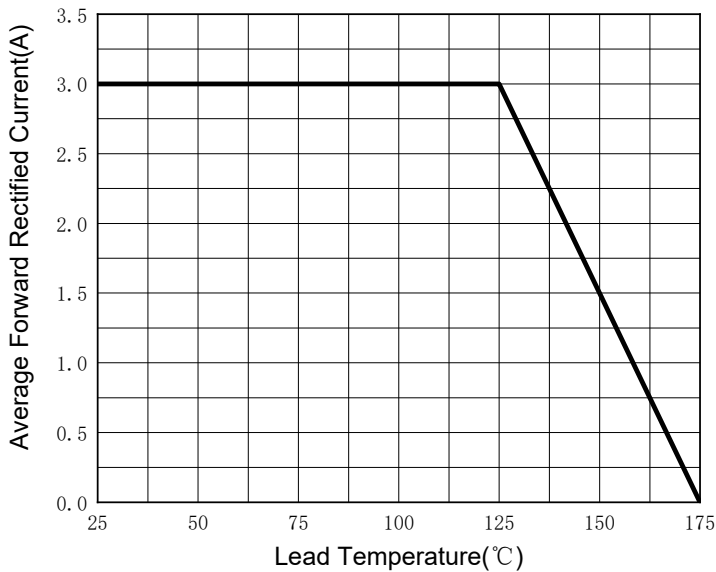


Fig.2: Maximum Non-Repetitive Peak Forward Surge Current

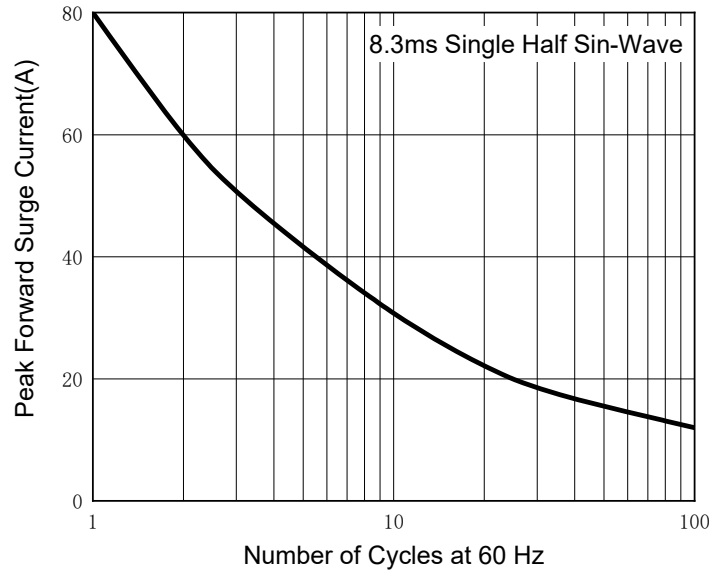


Fig.3: Typical Instantaneous Forward Characteristics

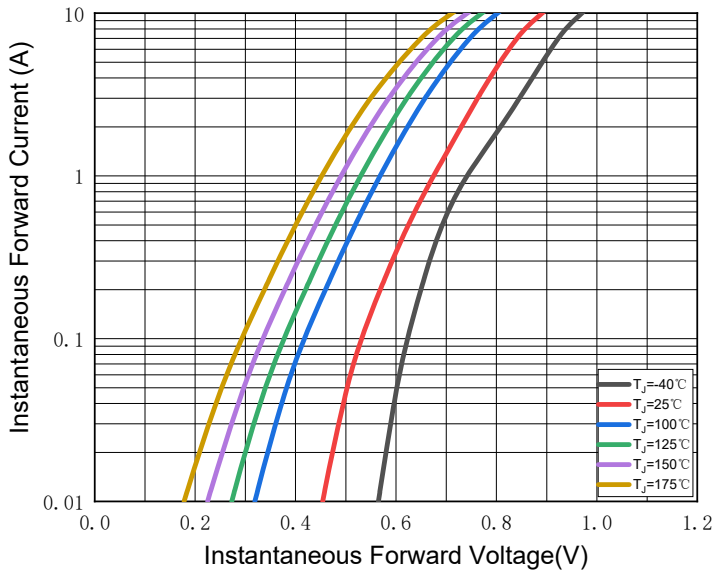
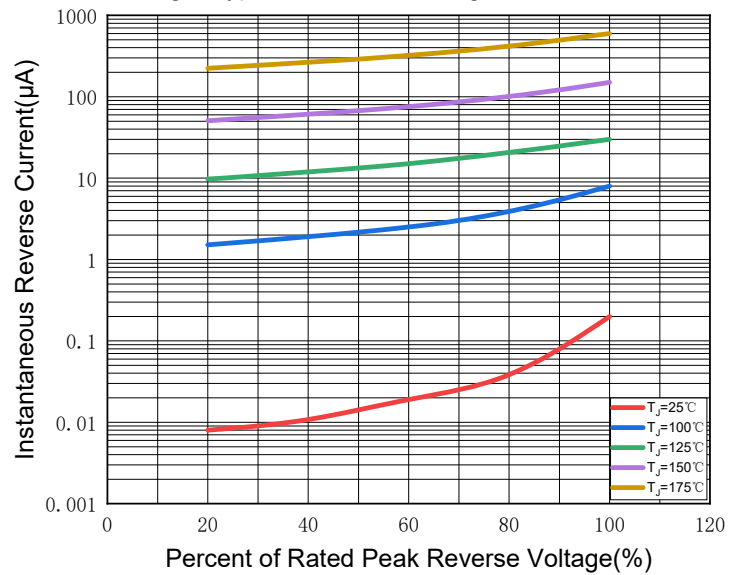


Fig.4: Typical Reverse Leakage Characteristics



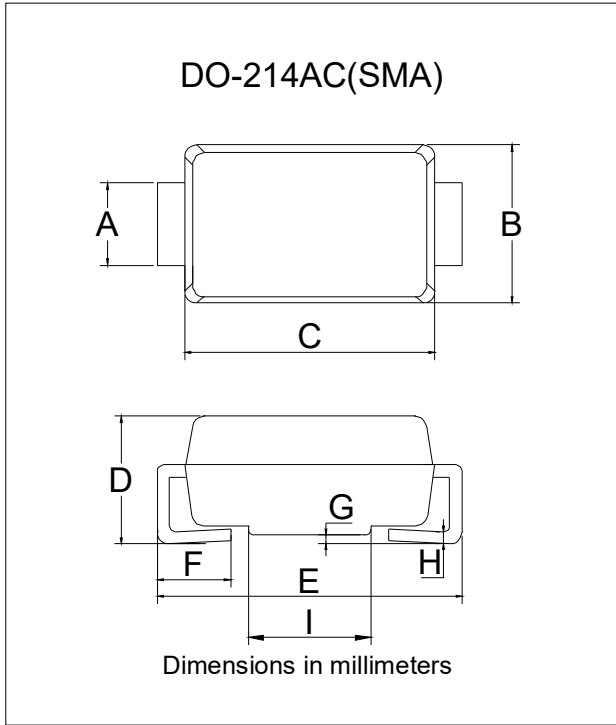


SS38AQ THRU SS310AQ

Ordering Information (Example)

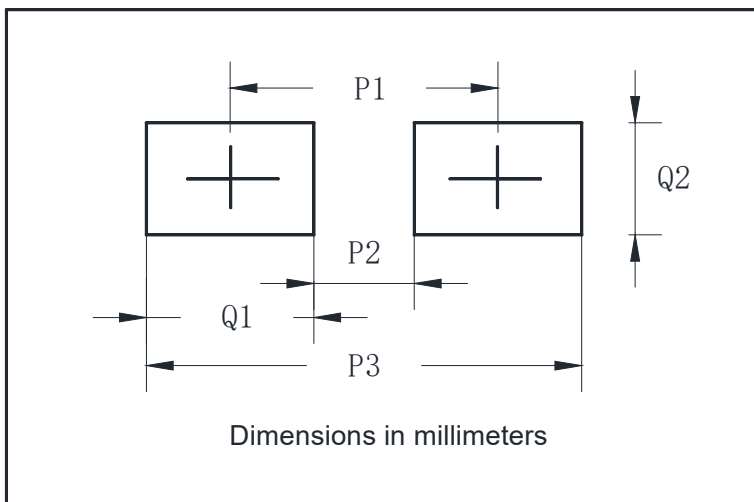
PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SS38AQ-SS310AQ	F2	Approximate 0.067	7500	120000	13" reel

Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.00	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.05	0.20
H	0.15	0.31
I	1.7	2.1

Suggested Pad Layout



DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70



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