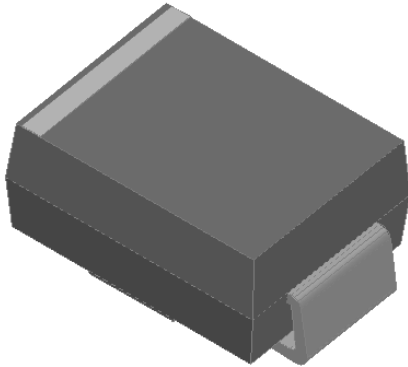


Surface Mount Schottky Rectifier

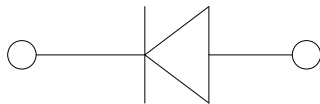


Features

- Guard ring for overvoltage protection
- Low power losses
- Extremely fast switching
- High forward surge capability
- High frequency operation
- 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-214AA (SMB)
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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SS38BQ	SS310BQ
Device marking code			SS38B	SS310B
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, $T_J=25^\circ\text{C}$	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 (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS		TYP	MAX	UNIT
Instantaneous forward voltage	V_F	$I_F=3A$	$T_J=25^\circ\text{C}$	0.76	0.8	V
			$T_J=125^\circ\text{C}$	0.63	0.75	
Reverse current	I_R	Rated V_R	$T_J=25^\circ\text{C}$	-	1	μA
			$T_J=125^\circ\text{C}$	30	150	
Typical junction capacitance	C_J	$V_R=4V, f=1\text{MHz}$		95	-	pF



SS38BQ THRU SS310BQ

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

PARAMETER	SYMBOL	UNIT	SS38BQ	SS310BQ
Thermal Resistance	$R_{\theta J-A}$	°C/W	63 ⁽¹⁾	
	$R_{\theta J-L}$		23 ⁽¹⁾	

Note:
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16mm) copper pad areas

■ Characteristics(Typical)

Fig.1:Forward Current Derating Curve

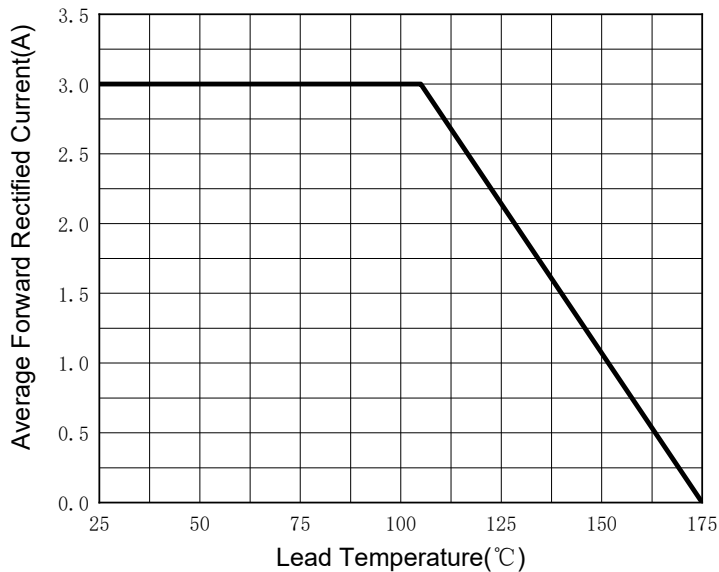


Fig.2:Maximum Non-Repetitive Peak Forward Surge Current

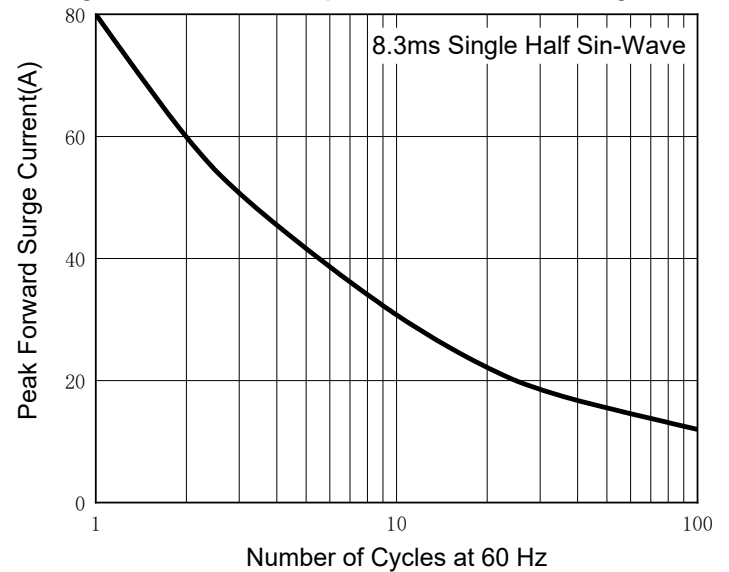


Fig.3:Typical Instantaneous Forward Characteristics

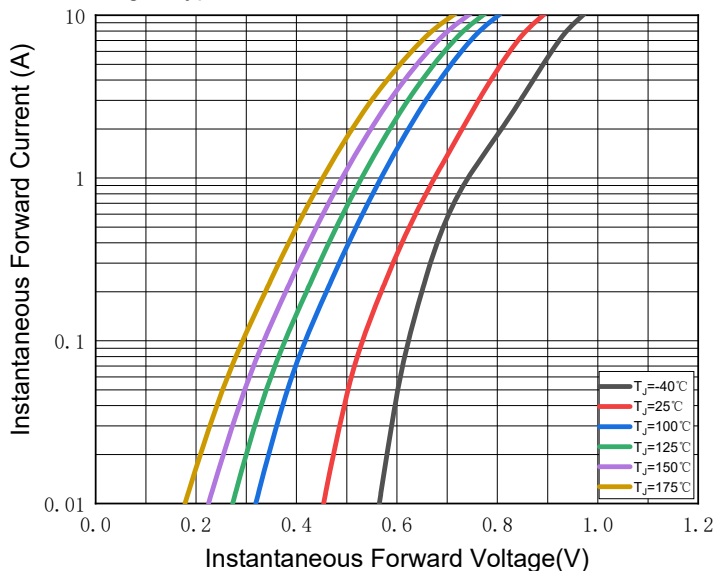
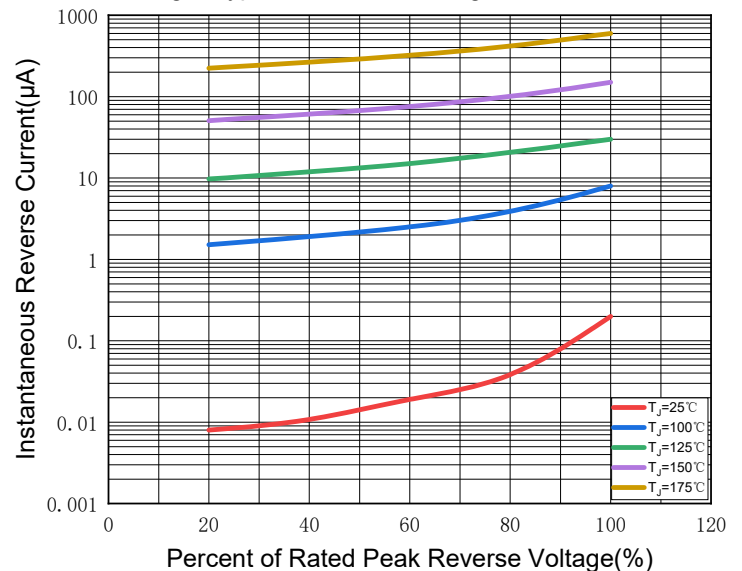


Fig.4:Typical Reverse Leakage Characteristics



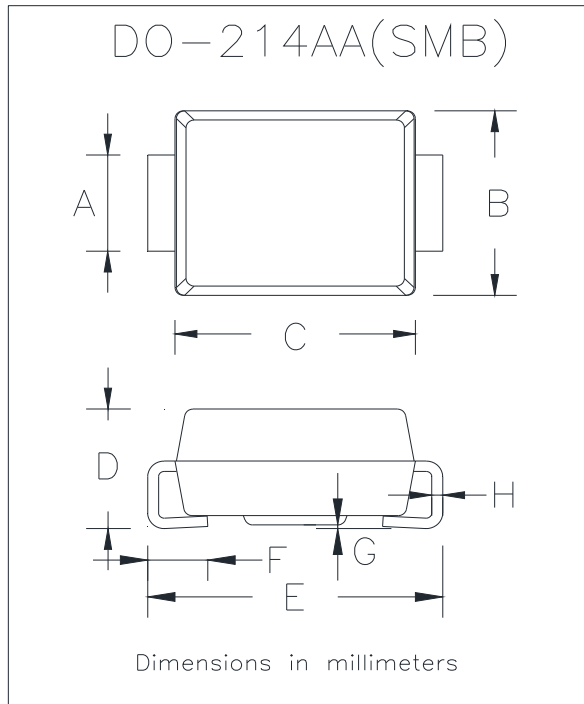
■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SS38BQ-SS310BQ	F1	Approximate 0.1003	3000	48000	13" reel



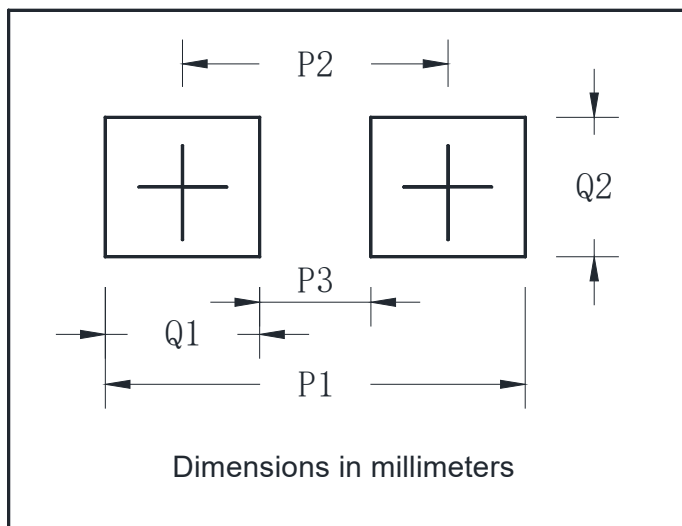
SS38BQ THRU SS310BQ

■ Outline Dimensions



DO-214AA(SMB)		
Dim	Min	Max
A	1.85	2.15
B	3.30	3.94
C	4.05	4.75
D	1.99	2.61
E	5.21	5.59
F	0.90	1.41
G	0.10	0.20
H	0.15	0.31

■ Suggested pad layout



DO-214AA(SMB)	
Dim	Millimeters
P1	6.8
P2	4.3
P3	1.8
Q1	2.5
Q2	2.3



SS38BQ THRU SS310BQ

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