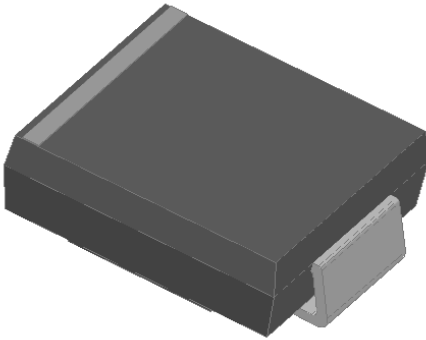


Surface Mount Schottky Rectifier

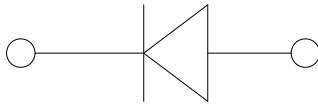


Features

- Guardring 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-214AB (SMC)
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	SS58Q	SS510Q
Device marking code			SS58	SS510
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	5.0	
Surge(non-repetitive)forward current @60Hz half-sine wave, 1 cycle, T _J =25°C	I _{FSM}	A	120	
Voltage rate of change (rated V _R)	dV/dt	V/μs	10000	
Storage temperature	T _{stg}	°C	-55 ~+175	
Junction 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 =5A	T _J =25°C	0.77	0.8	V
			T _J =125°C	0.63	0.75	
Reverse current	I _R	Rated V _R	T _J =25°C	0.2	10	μA
			T _J =125°C	-	200	
Typical junction capacitance	C _J	V _R =4V, f=1MHz		150	-	pF



SS58Q THRU SS510Q

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

PARAMETER	SYMBOL	UNIT	SS58Q	SS510Q
Thermal resistance	R _{θJ-A} (1)	°C/W	47 ⁽¹⁾	
	R _{θJ-L} (1)		13 ⁽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 16 mm) copper pad areas

■ Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SS58Q~SS510Q	F1	Approximate 0.251	3000	42000	13" reel

■ Characteristics (Typical)

Fig.1: Forward Current Derating Curve

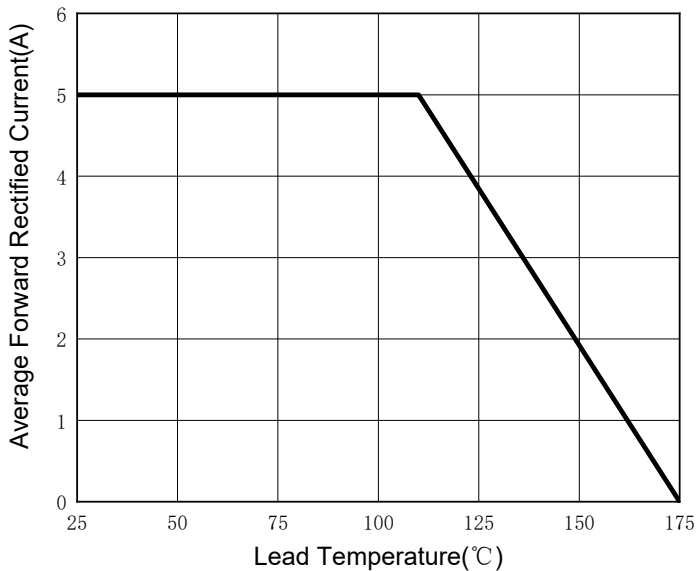


Fig.2: Maximum Non-Repetitive Peak Forward Surge Current

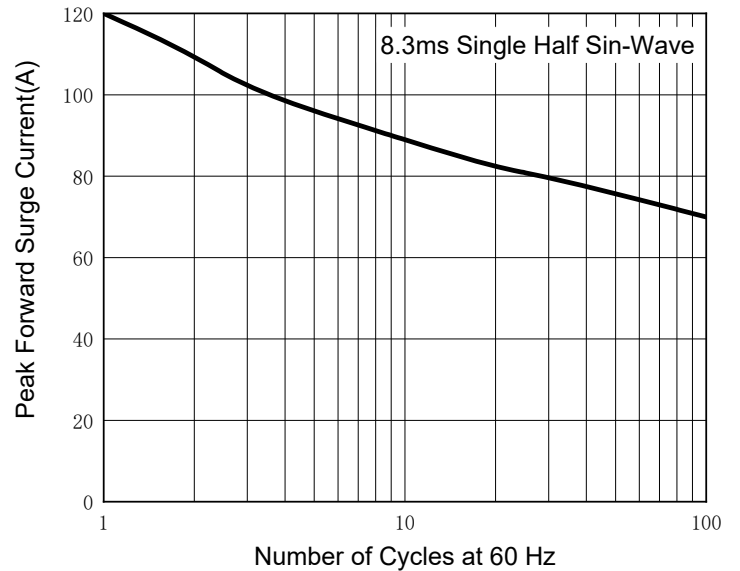


Fig.3: Typical Instantaneous Forward Characteristics

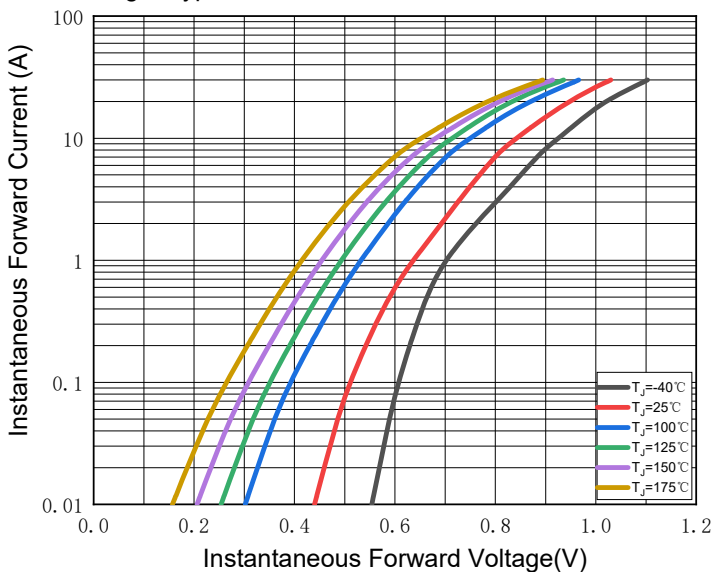
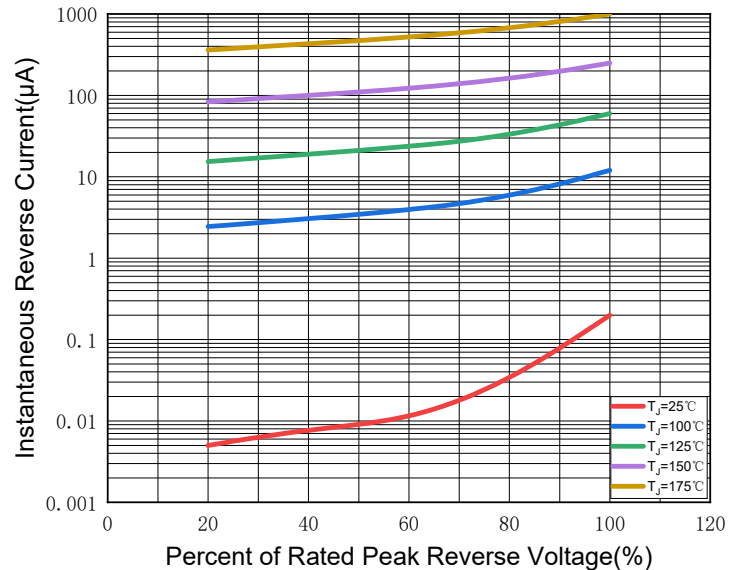


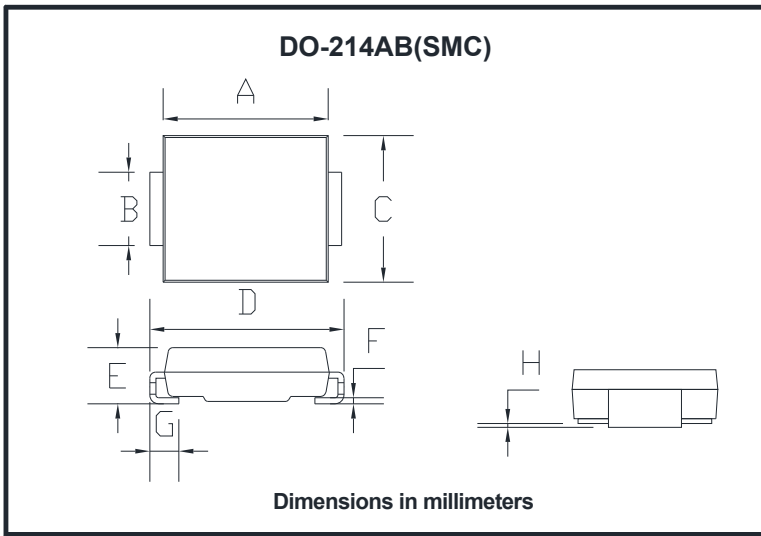
Fig.4: Typical Reverse Leakage Characteristics





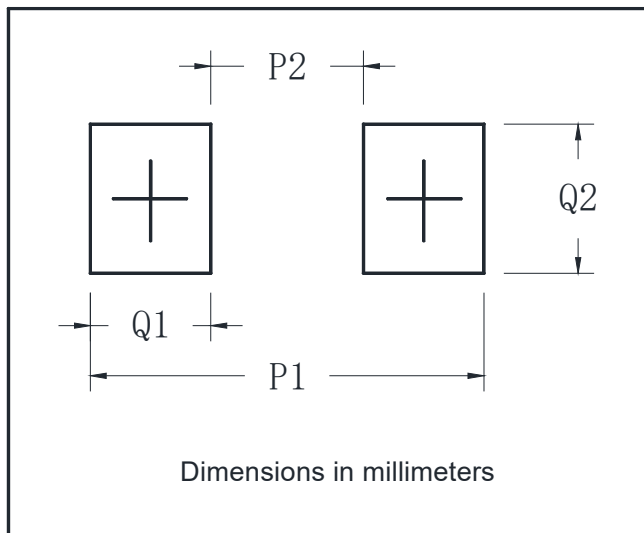
SS58Q THRU SS510Q

■ Outline Dimensions



DO-214AB (SMC)		
Dim	Min	Max
A	6.60	7.11
B	2.85	3.27
C	5.59	6.22
D	7.75	8.13
E	1.99	2.61
F	0.15	0.31
G	0.76	1.52
H	0.05	0.20

■ Suggested pad layout



Dim	Typ
P1	9.9
P2	3.84
Q1	3.03
Q2	3.82



SS58Q THRU SS510Q

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