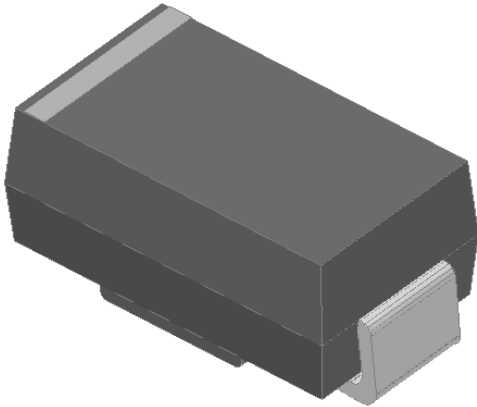


Surface Mount Schottky Rectifier

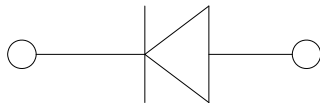


Features

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

PARAMETER	SYMBOL	UNIT	SS12AQ	SS13AQ	SS14AQ
Device marking code			SS12A	SS13A	SS14A
Repetitive peak reverse voltage	V_{RRM}	V	20	30	40
Maximum RMS voltage	V_{RMS}	V	14	21	28
Maximum DC blocking voltage	V_{DC}	V	20	30	40
Maximum average forward rectified current at T_L (Fig.1)	I_O	A	1.0		
Surge(non-repetitive)forward current @60Hz half-sine wave, 1 cycle, $T_J=25^\circ\text{C}$	I_{FSM}	A	40		
Voltage rate of change (rated V_R)	dV/dt	V/ μs	10000		
Storage temperature	T_{stg}	$^\circ\text{C}$	-55 ~+150		
Junction temperature	T_J	$^\circ\text{C}$	-55 ~+150		

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

PARAMETER	SYMBOL	TEST CONDITIONS	TYP	MAX	UNIT	
Instantaneous forward voltage	V_F	$I_F=1\text{A}$	$T_J=25^\circ\text{C}$	0.45	0.5	V
			$T_J=125^\circ\text{C}$	-	0.4	
Reverse current	I_R	Rated V_R	$T_J=25^\circ\text{C}$	-	200	μA
			$T_J=125^\circ\text{C}$	-	20	mA
Typical junction capacitance	C_J	$V_R=4\text{V}, f=1\text{MHz}$	100	-	pF	



SS12AQ THRU SS14AQ

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

PARAMETER	SYMBOL	UNIT	SS12AQ	SS13AQ	SS14AQ
Thermal resistance	$R_{\theta J-A}$	$^\circ\text{C/W}$	65 ⁽¹⁾		
	$R_{\theta J-L}$		20 ⁽¹⁾		

Note
 (1) Thermal resistance from junction to ambient and from junction to lead 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

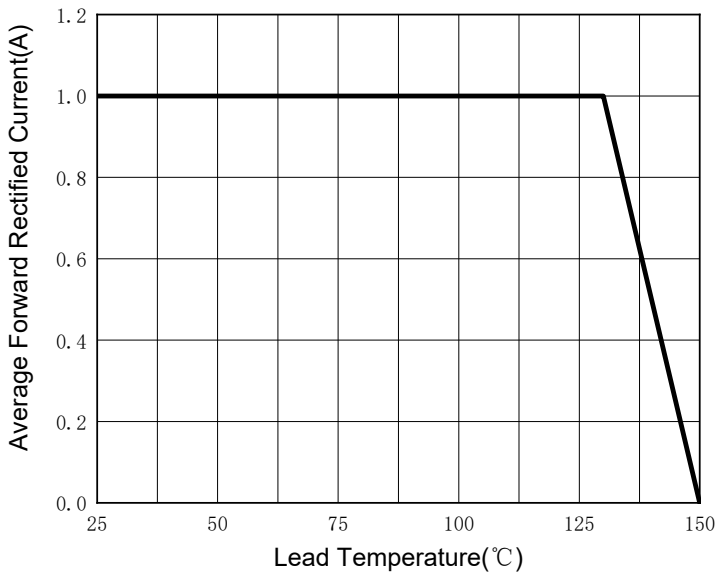


Fig.2: Maximum Non-Repetitive Peak Forward Surge Current

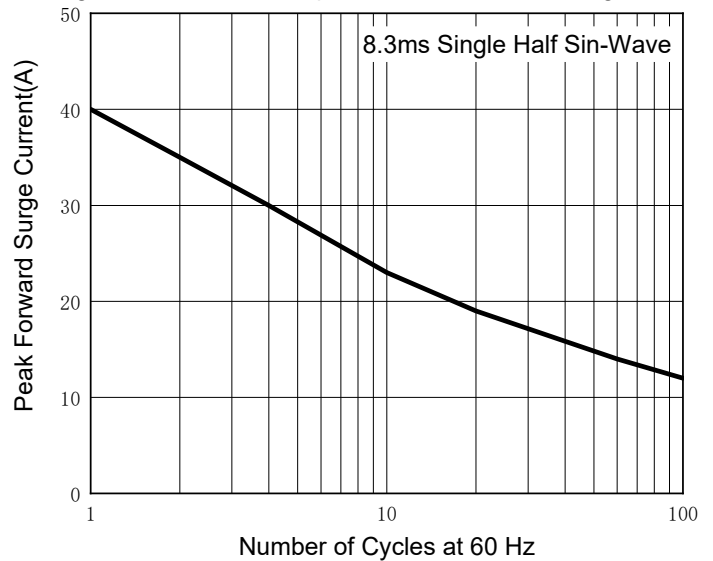


Fig.3: Typical Instantaneous Forward Characteristics

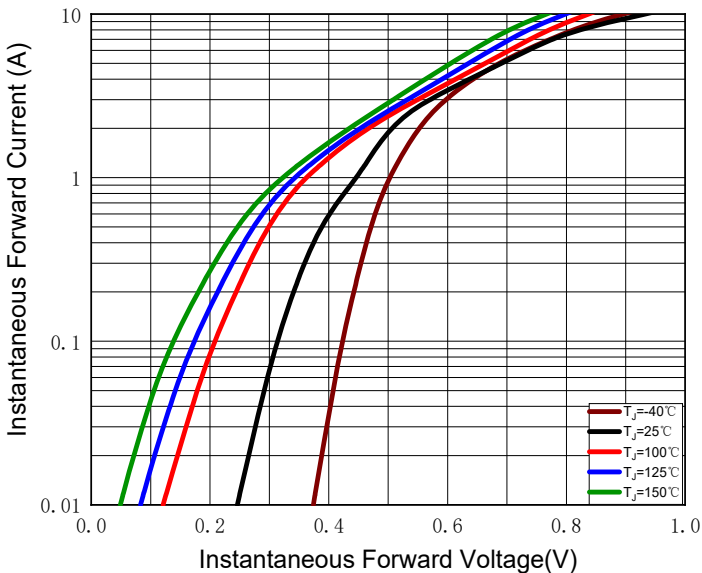
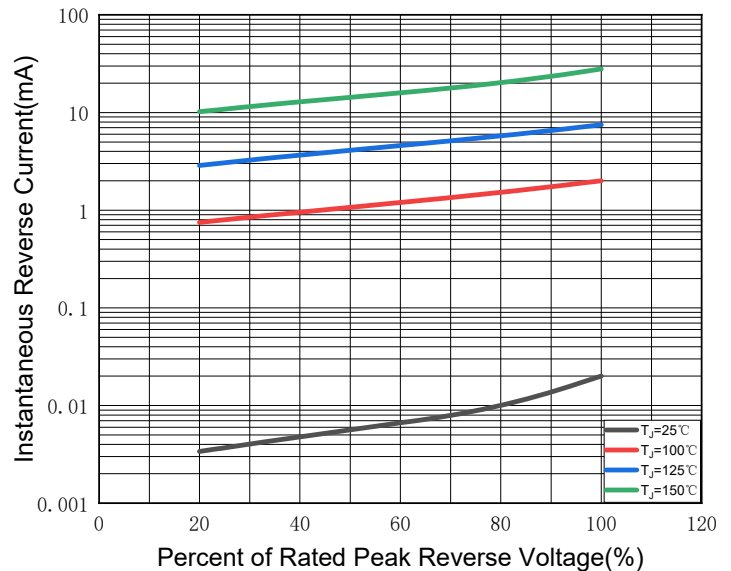


Fig.4: Typical Reverse Leakage Characteristics



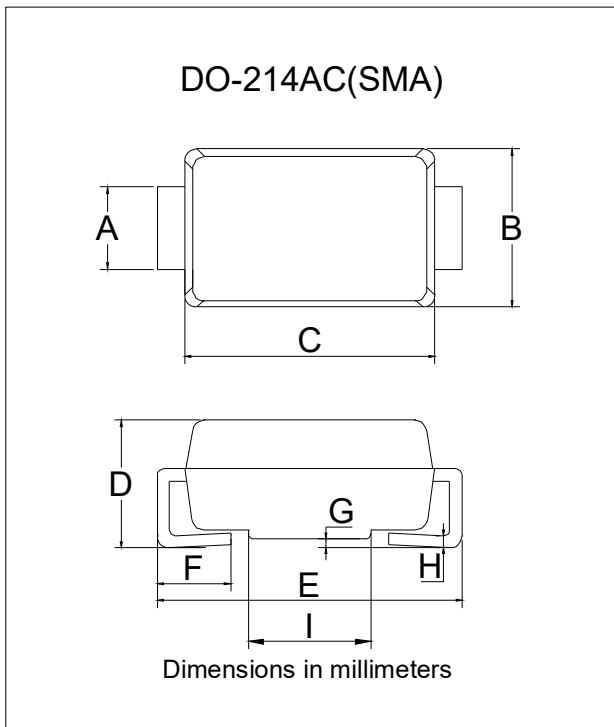
■ Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SS12AQ-SS14AQ	F2	Approximate 0.067	7500	120000	13" reel



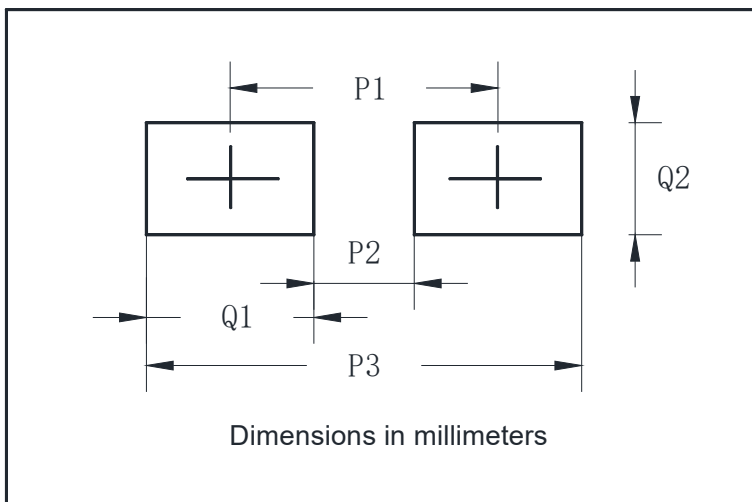
SS12AQ THRU SS14AQ

■ 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



SS12AQ THRU SS14AQ

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