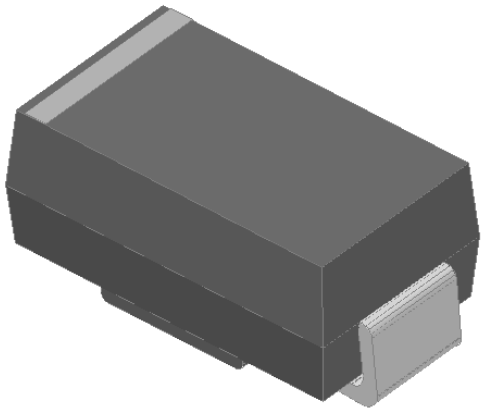
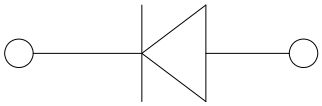
Surface Mount Schottky Rectifier





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 (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SS								
			12AQ	13AQ	14AQ	15AQ	16AQ	18AQ	110AQ	115AQ	120AQ
Device marking code			SS								
			12A	13A	14A	15A	16A	18A	110A	115A	120A
Repetitive peak reverse voltage	V_{RRM}	V	20	30	40	50	60	80	100	150	200
Maximum RMS voltage	V_{RMS}	V	14	21	28	35	42	56	70	105	140
Maximum DC blocking voltage	V_{DC}	V	20	30	40	50	60	80	100	150	200
Average rectified output current @60Hz sine wave, resistance load, T_L (Fig.1)	I_O	A	1.0								
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, Ta=25℃	I_{FSM}	A	40								
Storage temperature	T_{stg}	℃	-55 ~+150								
Junction temperature	T_J	℃	-55~+125			-55 ~+150					

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	SS								
				12AQ	13AQ	14AQ	15AQ	16AQ	18AQ	110AQ	115AQ	120AQ
Maximum instantaneous forward voltage drop per diode	V_F	V	I_{FM}=1.0A	0.50			0.70		0.85		0.90	
Maximum DC reverse current at rated DC blocking voltage per diode@ $V_{RM}=V_{RRM}$	I_{RRM}	uA	T_J=25℃	200					1			
		mA	T_J=100℃	10					-			
			T_J=125℃	-					0.5			
Typical junction capacitance	C_J	pF	VR=4V,f=1MHz	75			65		50		35	

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

PARAMETER	SYMBOL	UNIT	SS								
			12AQ	13AQ	14AQ	15AQ	16AQ	18AQ	110AQ	115AQ	120AQ
Thermal resistance	$R_{\theta J-A}$	℃/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:I_O-T_L Curve

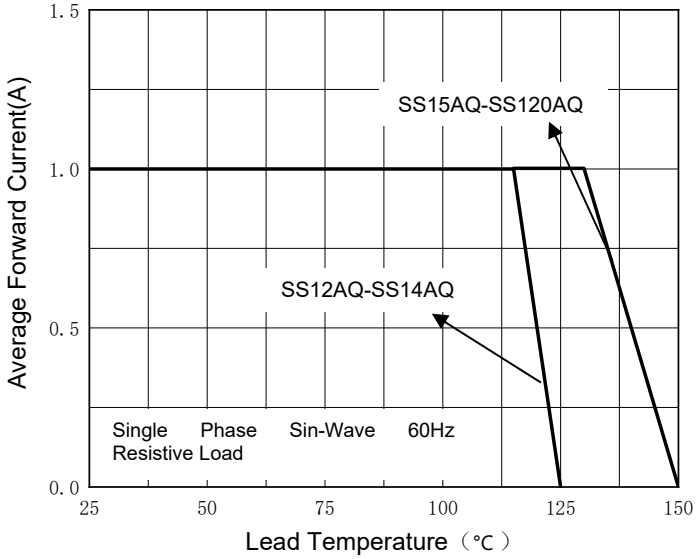


Fig.2:Surge Forward Current Capability

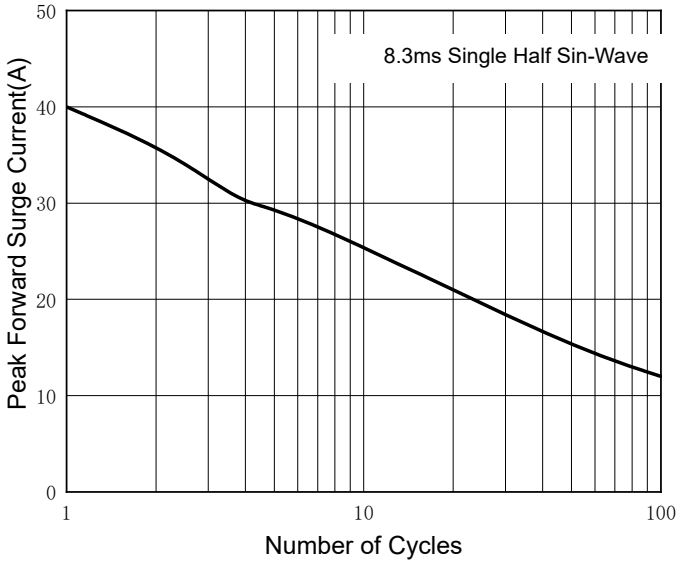


Fig.3:Forward Voltage

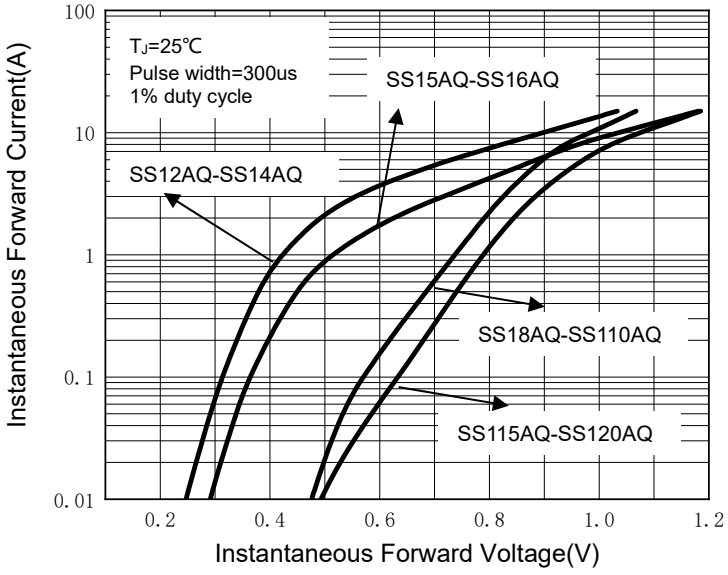
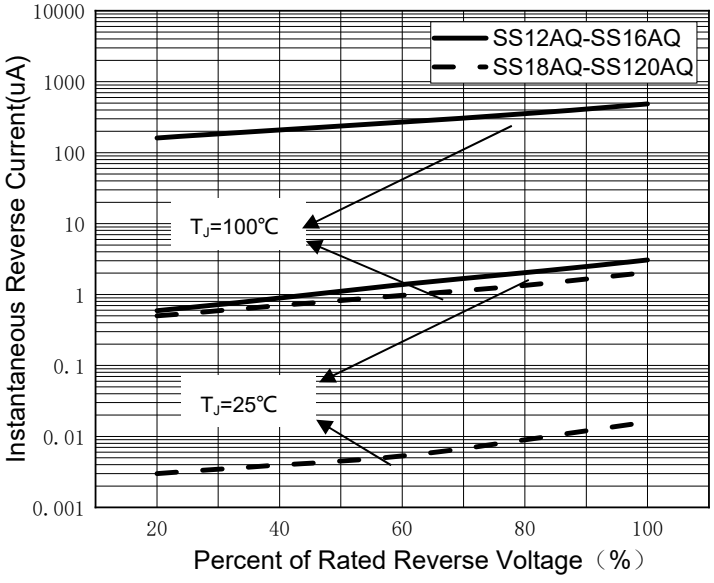


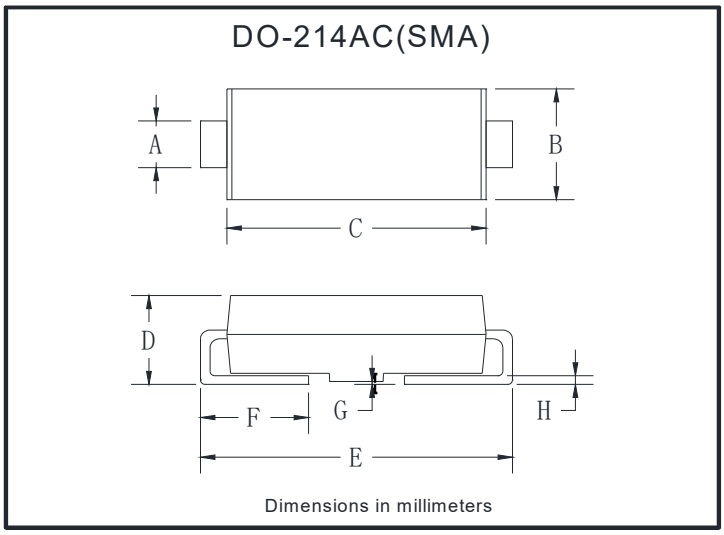
Fig.4:Typical Reverse Characteristics



■Ordering Information (Example)

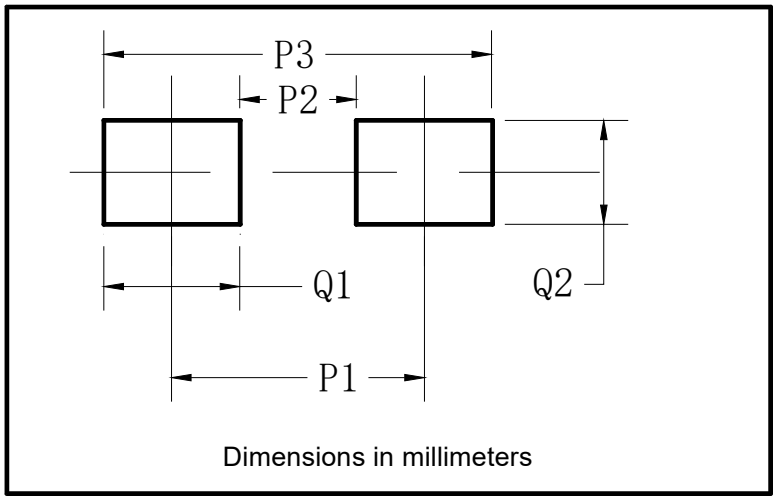
PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SS12AQ-SS120AQ	F2	Approximate 0.067	7500	/	120000	13” reel

■ Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.25	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.08	0.20
H	0.15	0.31

■Suggested Pad Layout



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

Disclaimer

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