

## Surface Mount Schottky Rectifier

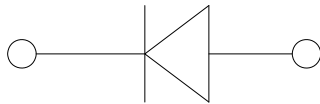


### Features

- 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<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SS								
			52AQ	53AQ	54AQ	55AQ	56AQ	58AQ	510AQ	515AQ	520AQ
Device marking code			SS								
			52A	53A	54A	55A	56A	58A	510A	515A	520A
Repetitive peak reverse voltage	V <sub>RRM</sub>	V	20	30	40	50	60	80	100	150	200
Average rectified output current @60Hz sine wave, resistance load, T <sub>a</sub> (FIG.1)	I <sub>O</sub>	A	5.0								
Surge(non-repetitive)forward current @ 60Hz half-sine wave, 1 cycle, T <sub>a</sub> =25°C	I <sub>FSM</sub>	A	100								
Storage temperature	T <sub>stg</sub>	°C	-55 ~+150								
Junction temperature	T <sub>J</sub>	°C	-55~+125				-55 ~+150				

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	SS								
				52AQ	53AQ	54AQ	55AQ	56AQ	58AQ	510AQ	515AQ	520AQ
Maximum instantaneous forward voltage drop per diode	V <sub>F</sub>	V	I <sub>FM</sub> =5.0A	0.60			0.70		0.85		0.90	
Maximum DC reverse current at rated DC blocking voltage per diode@ V <sub>RM</sub> =V <sub>RRM</sub>	I <sub>RRM</sub>	mA	T <sub>a</sub> =25°C	0.5				0.1				
			T <sub>a</sub> =100°C	10				5				
Typical junction capacitance	C <sub>J</sub>	pF	V <sub>R</sub> =4V,f=1MHZ	265			210		150		100	



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## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SS							
			52AQ	53AQ	54AQ	55AQ	56AQ	58AQ	510AQ	515AQ
Thermal resistance	R <sub>θJA</sub> (1)	°C/W	60 <sup>(1)</sup>							
	R <sub>θJL</sub> (1)		22 <sup>(1)</sup>							

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<sub>O</sub>-T<sub>L</sub> Curve

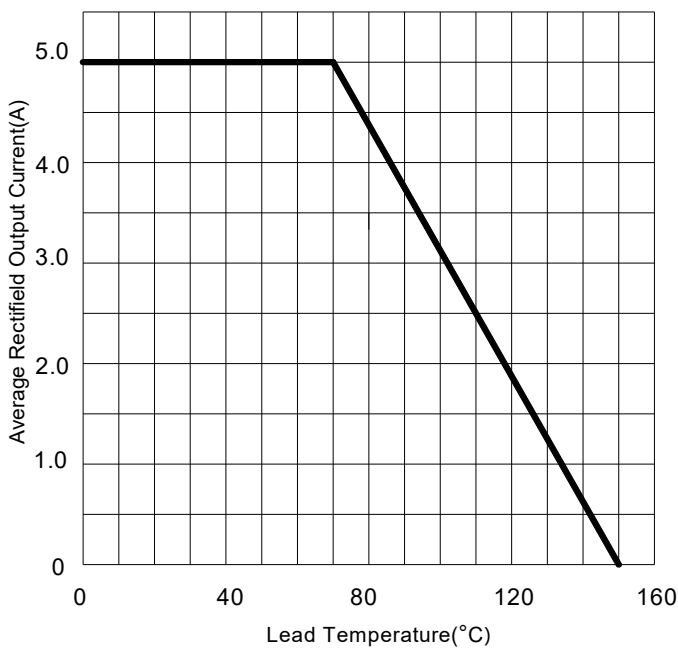


FIG.2: Surge Forward Current Capability

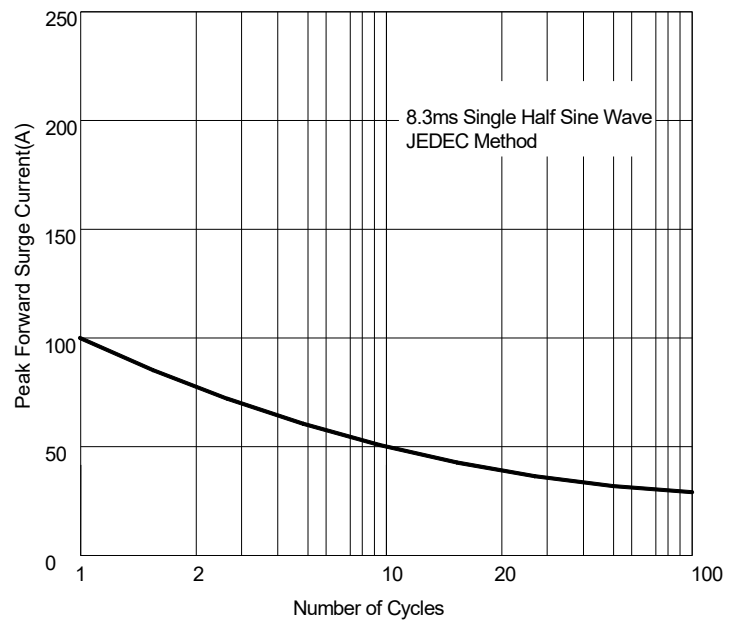


FIG.3: Typical Forward Characteristics

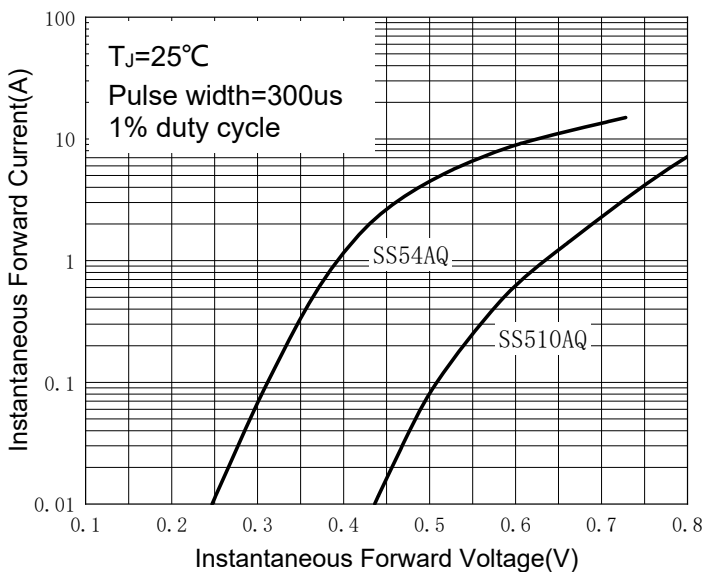
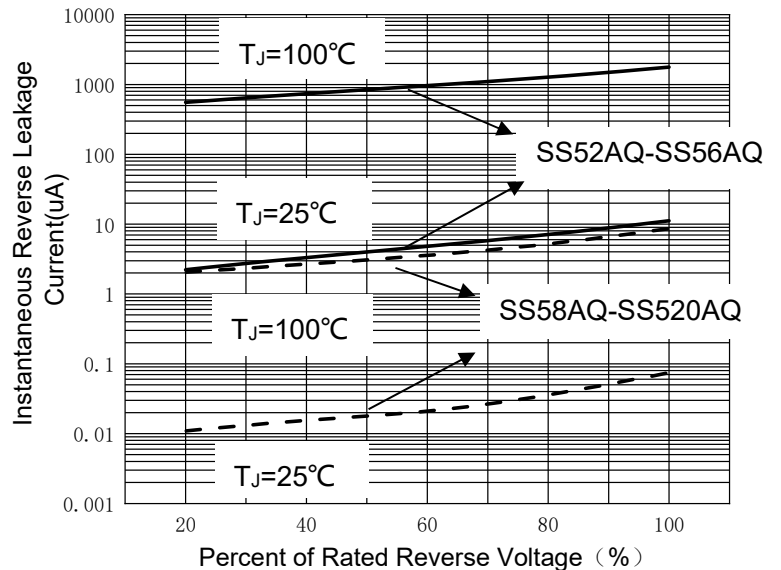


FIG.4: Typical Reverse Characteristics



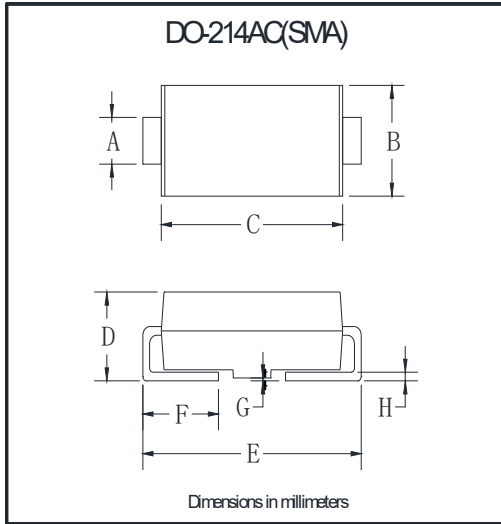


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## Ordering Information (Example)

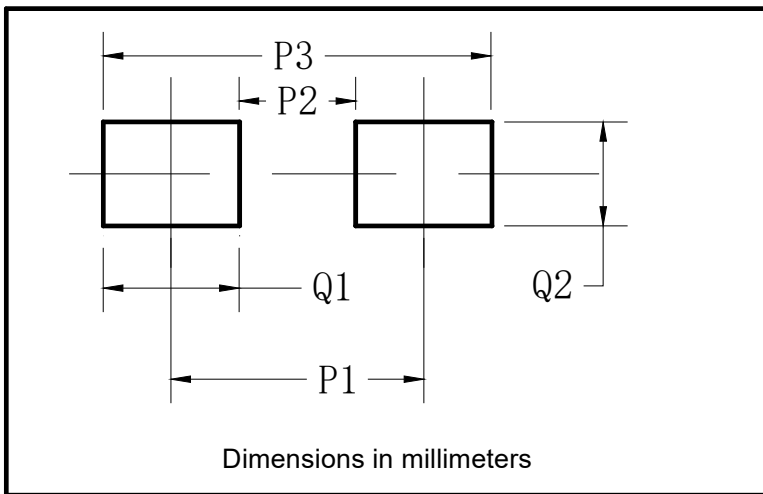
PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SS52AQ-SS520AQ	F2	Approximate 0.059	7500	15000	120000	13" reel

## 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



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