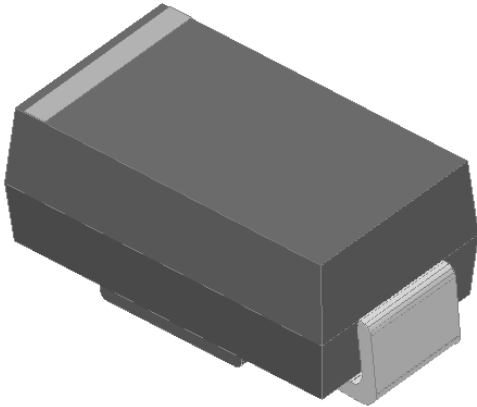


## Surface Mount Schottky Rectifier

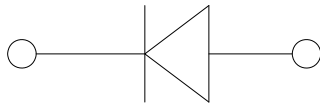


### Features

- 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	SS52AQ	SS53AQ	SS54AQ
Device marking code			SS52A	SS53A	SS54A
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	5.0		
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, $T_J=25^\circ\text{C}$	$I_{FSM}$	A	120		
Voltage rate of change (rated $V_R$ )	dV/dt	V/ $\mu\text{s}$	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	$V_F$	$I_F=5\text{A}$	$T_J=25^\circ\text{C}$	0.51	0.6	V
			$T_J=125^\circ\text{C}$	0.45	0.54	
Reverse current	$I_R$	Rated $V_R$	$T_J=25^\circ\text{C}$	10	100	$\mu\text{A}$
			$T_J=125^\circ\text{C}$	-	20	mA
Typical junction capacitance	$C_J$	$V_R=4\text{V}, f=1\text{MHz}$		265	-	pF



# SS52AQ THRU SS54AQ

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

PARAMETER	SYMBOL	UNIT	SS52AQ	SS53AQ	SS54AQ
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: Forward Current Derating Curve

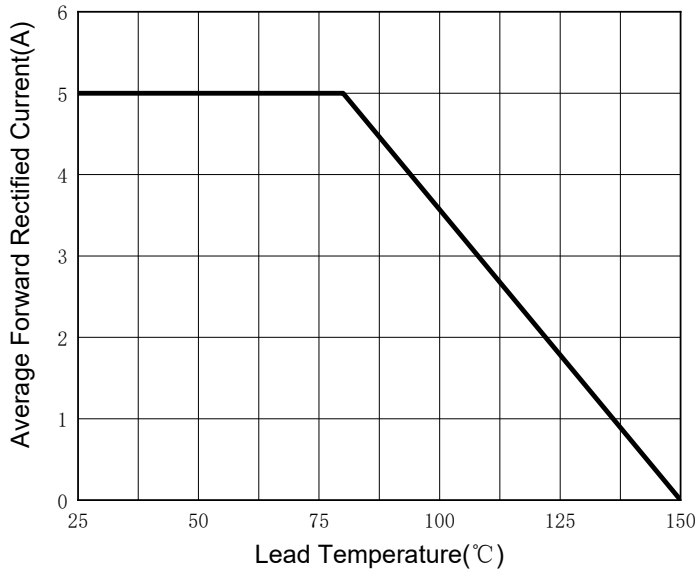


Fig.2: Maximum Non-Repetitive Peak Forward Surge Current

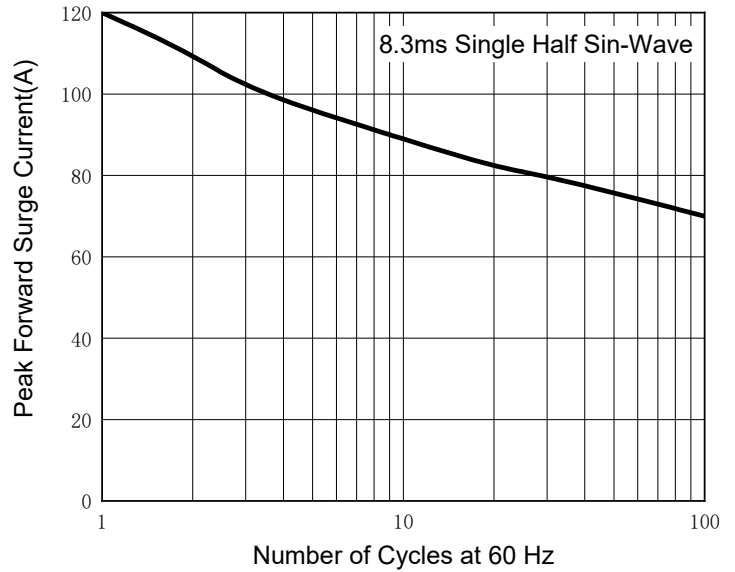


Fig.3: Typical Instantaneous Forward Characteristics

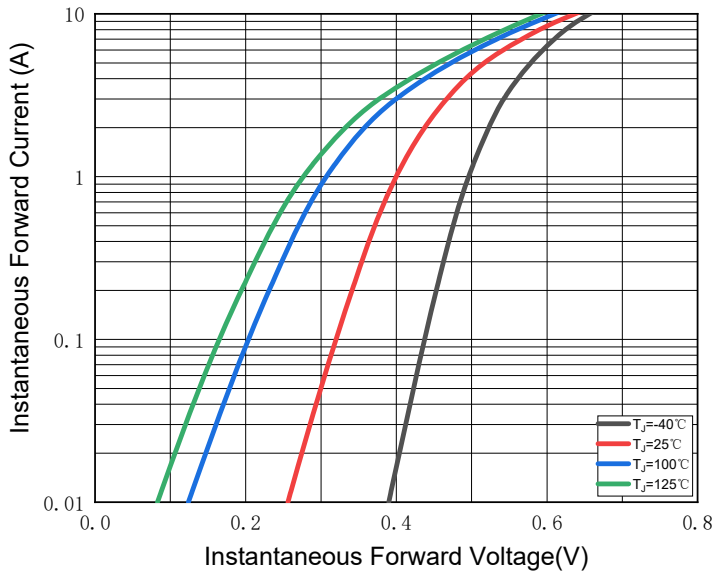
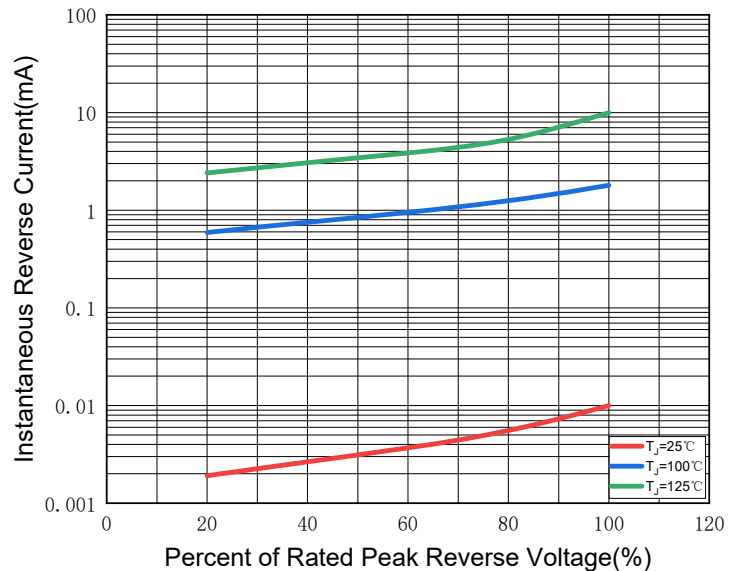


Fig.4: Typical Reverse Leakage Characteristics



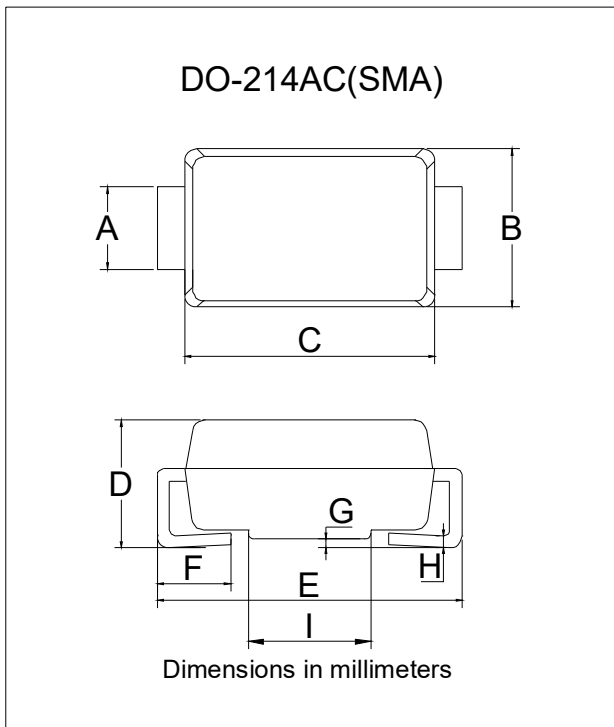
## ■ Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SS52AQ-SS54AQ	F2	Approximate 0.059	7500	120000	13" reel



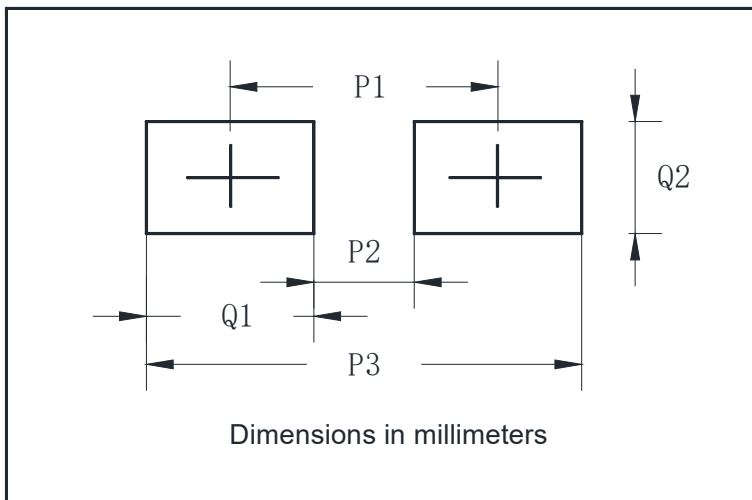
## SS52AQ THRU SS54AQ

### ■ 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



## SS52AQ THRU SS54AQ

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