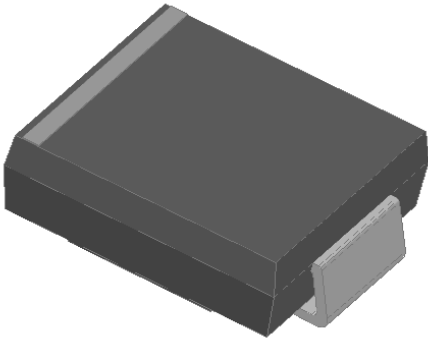


## Surface Mount Schottky Rectifier

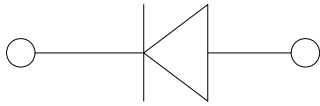


### Features

- Guardring for overvoltage protection
- Low power loss
- 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
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes the cathode end

### ■ Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SS820Q
Device marking code			SS820
Repetitive peak reverse voltage	$V_{RRM}$	V	200
Maximum RMS voltage	$V_{RMS}$	V	140
Maximum DC blocking voltage	$V_{DC}$	V	200
Maximum average forward rectified current at $T_L$ (Fig.1)	$I_O$	A	8.0
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, $T_J=25^\circ\text{C}$	$I_{FSM}$	A	150
Voltage rate of change (rated $V_R$ )	dV/dt	V/ $\mu\text{s}$	10000
Storage temperature	$T_{stg}$	°C	-55 ~+175
Junction temperature	$T_J$	°C	-55 ~+175

### ■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	TYP	MAX	UNIT	
Instantaneous forward voltage	$V_F$	$I_F=8\text{A}$	$T_J=25^\circ\text{C}$	0.8	0.9	V
			$T_J=125^\circ\text{C}$	-	0.8	
Reverse current	$I_R$	Rated $V_R$	$T_J=25^\circ\text{C}$	-	10	$\mu\text{A}$
			$T_J=125^\circ\text{C}$	-	200	
Typical junction capacitance	$C_J$	$V_R=4\text{V}, f=1\text{MHz}$	165	-	pF	



# SS820Q

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

PARAMETER		SYMBOL	UNIT	SS820Q
Thermal Resistance	Between junction and ambient	$R_{\theta J-A}$	°C/W	45 <sup>(1)</sup>
	Between junction and lead	$R_{\theta J-L}$		12 <sup>(1)</sup>

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
SS820Q	F1	Approximate 0.254	3000	42000	13" reel

## ■ Characteristics (Typical)

Fig.1:Forward Current Derating Curve

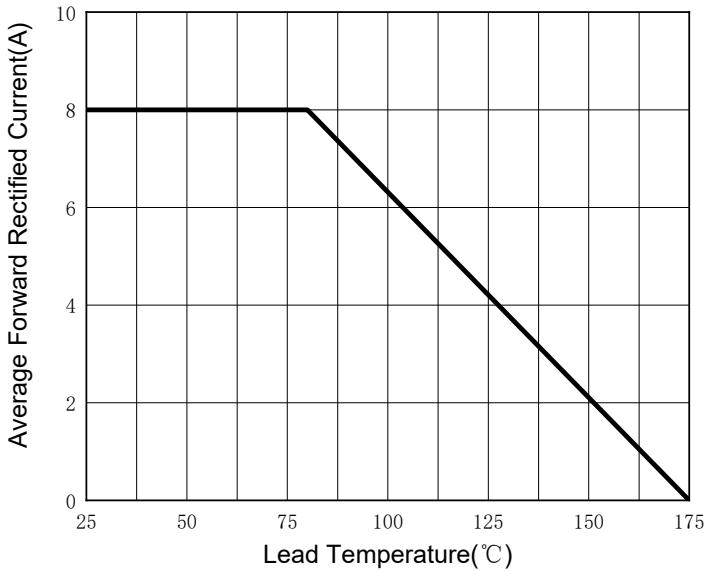


Fig.2:Maximum Non-Repetitive Peak Forward Surge Current

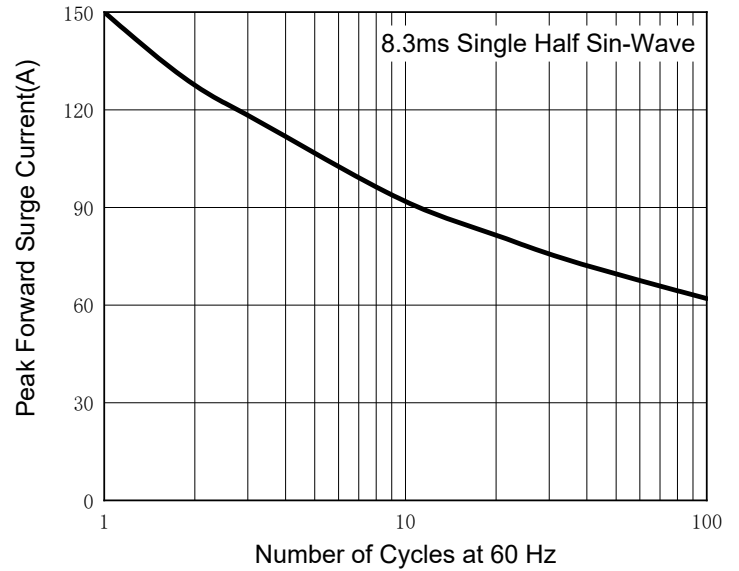


Fig.3:Typical Instantaneous Forward Characteristics

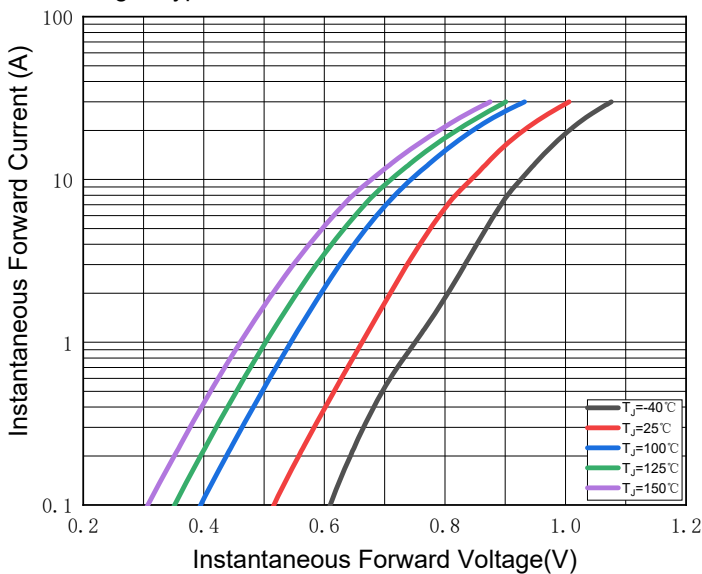
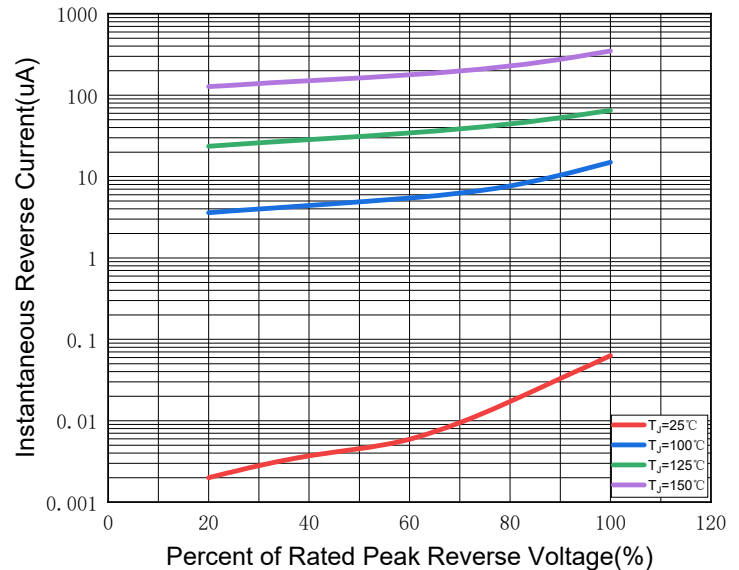
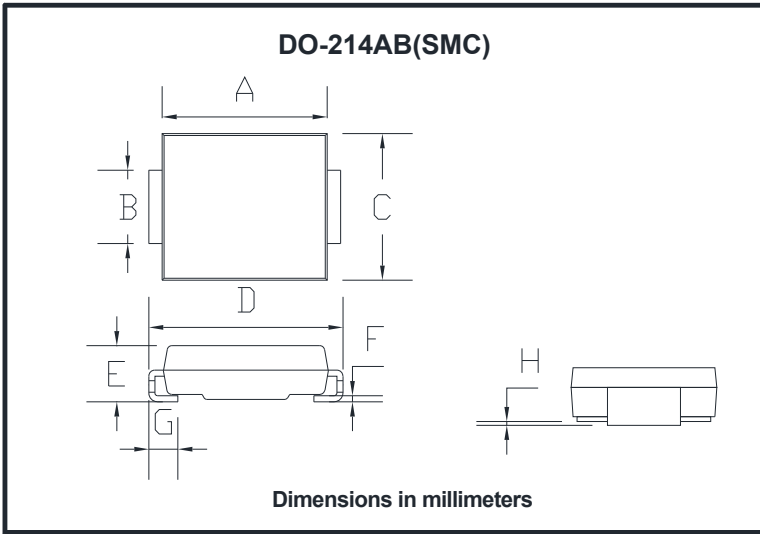


Fig.4:Typical Reverse Leakage Characteristics

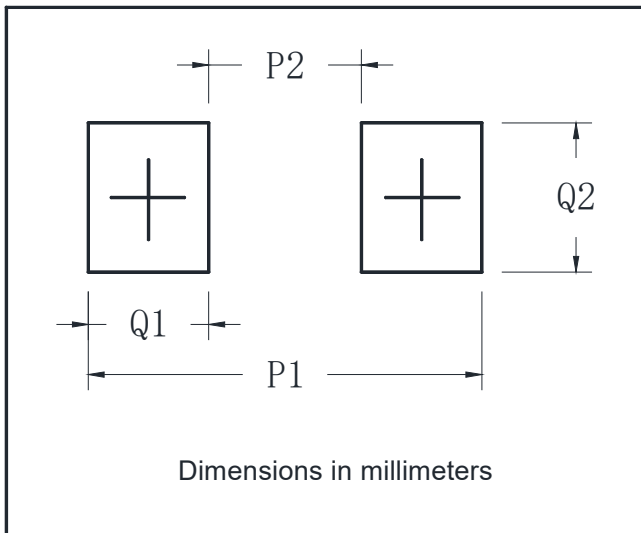


## ■ Outline Dimensions



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



DO-214AB (SMC)	
Dim	Min
P1	9.9
P2	3.84
Q1	3.03
Q2	3.82



## SS820Q

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