

## Surface Mount Schottky Rectifier

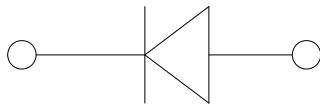


### Features

- Guard ring for overvoltage protection
- Low power losses
- 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:** SOD-123FL  
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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S315Q	S320Q
Device marking code			S315	S320
Repetitive peak reverse voltage	$V_{RRM}$	V	150	200
Maximum RMS voltage	$V_{RMS}$	V	105	140
Maximum DC blocking voltage	$V_{DC}$	V	150	200
Maximum average forward rectified current at $T_L$ (Fig.1)	$I_O$	A	3.0	
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, $T_J=25^\circ\text{C}$	$I_{FSM}$	A	80	
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	$V_F$	$I_F=3\text{A}$	$T_J=25^\circ\text{C}$	0.81	0.9	V
			$T_J=125^\circ\text{C}$	0.68	0.75	
Reverse current	$I_R$	Rated $V_R$	$T_J=25^\circ\text{C}$	-	1	$\mu\text{A}$
			$T_J=125^\circ\text{C}$	-	150	
Typical junction capacitance	$C_J$	$V_R=4\text{V}, f=1\text{MHz}$	60	-	pF	



# S315Q THRU S320Q

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

PARAMETER	SYMBOL	UNIT	S315Q	S320Q
Thermal Resistance	$R_{\theta J-A}$	°C/W	85 <sup>(1)</sup>	
	$R_{\theta J-L}$		35 <sup>(1)</sup>	

Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 3 mm x 3mm copper pad areas

## ■ Characteristics(Typical)

Fig.1:Forward Current Derating Curve

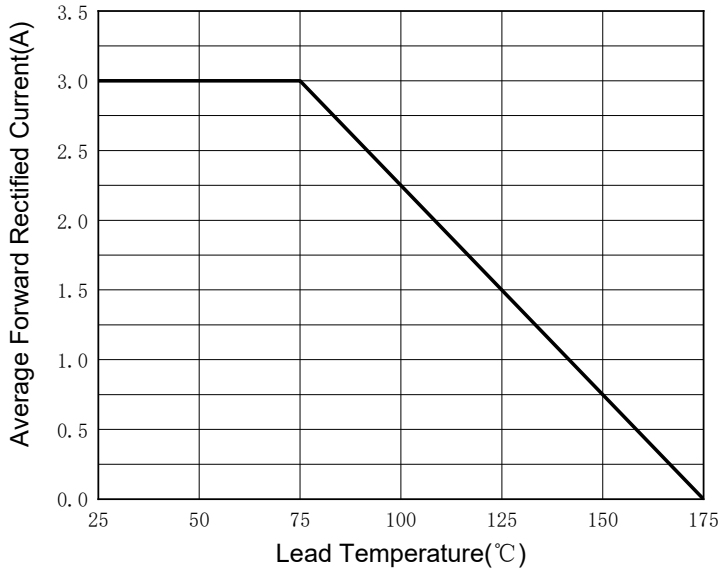


Fig.2:Maximum Non-Repetitive Peak Forward Surge Current

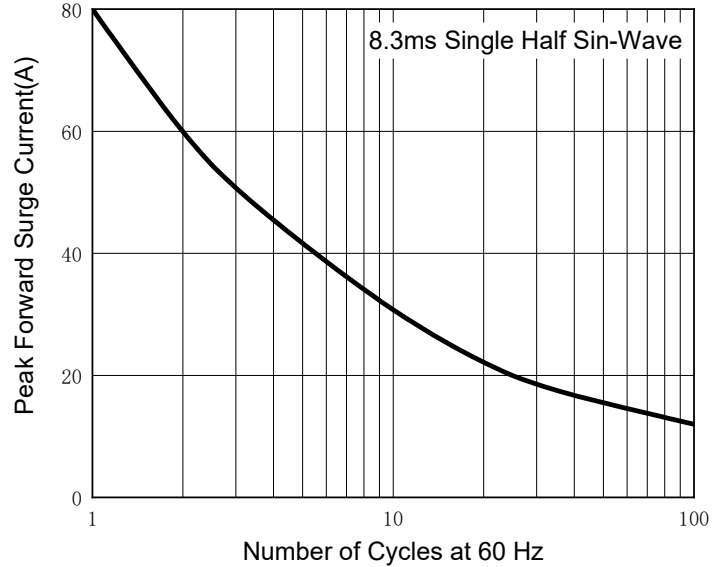


Fig.3:Typical Instantaneous Forward Characteristics

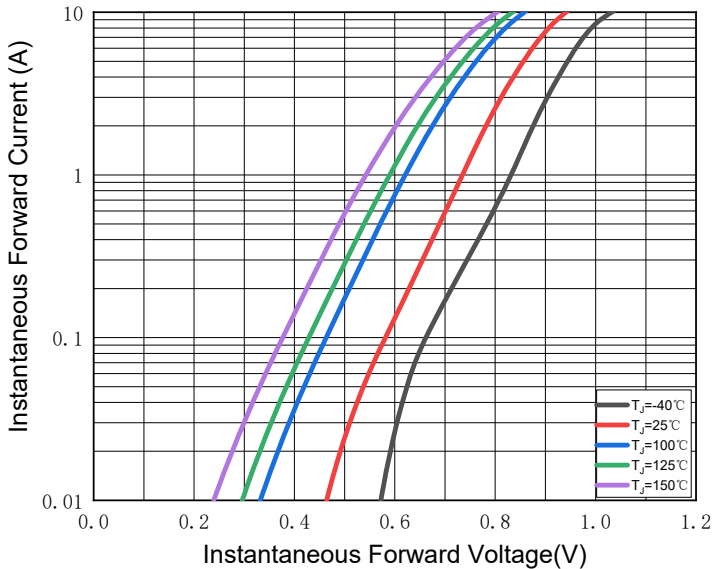
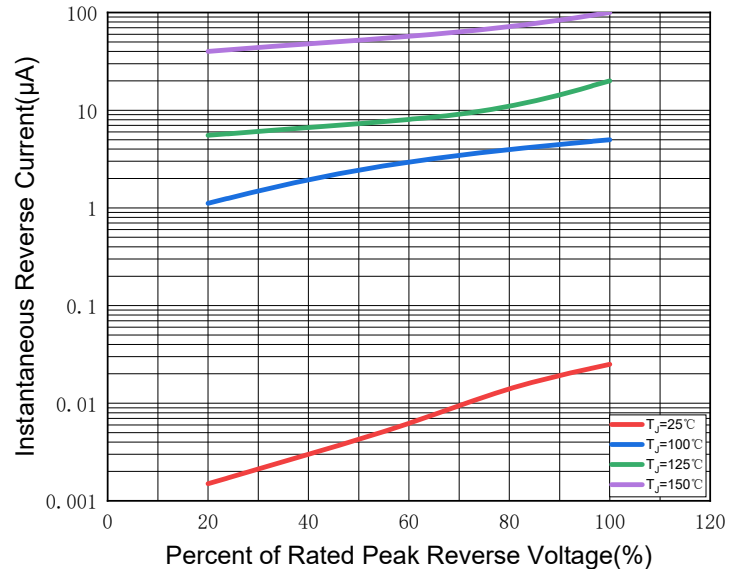


Fig.4:Typical Reverse Leakage Characteristics



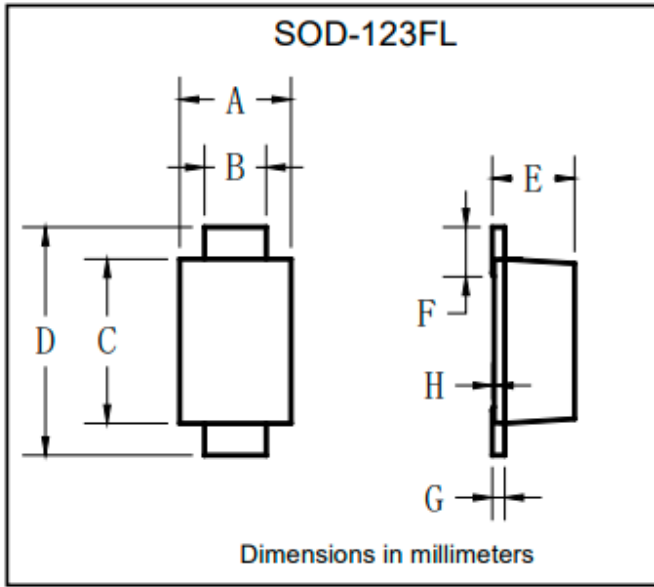
## ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
S315Q-S320Q	F1	Approximate 0.0169	3000	120000	7" reel



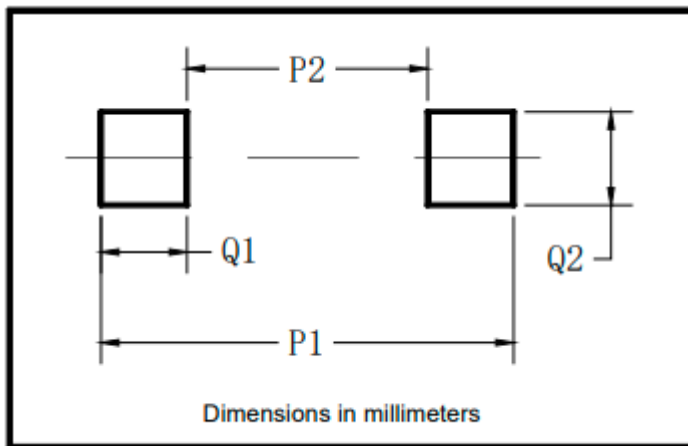
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## ■ Outline Dimensions



SOD-123FL		
Dim	Min	Max
A	1.60	1.90
B	0.90	1.10
C	2.55	2.85
D	3.60	3.90
E	1.00	1.20
F	0.40	0.90
G	0.10	0.25
H	0.02	0.05

## ■ Suggested pad layout



SOD-123FL	
Dim	Millimeters
P1	3.90
P2	1.90
Q1	1.00
Q2	1.50



## S315Q THRU S320Q

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