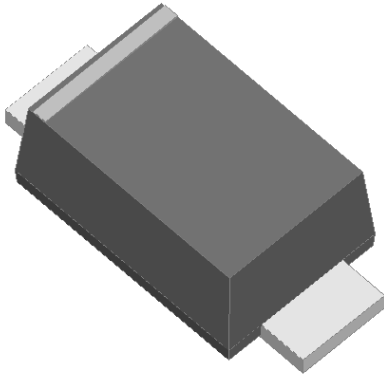


## Surface Mount Schottky Rectifier

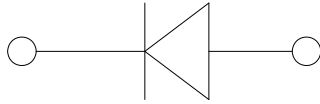


### Features

- 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:** 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 (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S22Q	S23Q	S24Q
Device marking code			S22	S23	S24
Repetitive peak reverse voltage	V <sub>RRM</sub>	V	20	30	40
Maximum RMS voltage	V <sub>RMS</sub>	V	14	21	28
Maximum DC blocking voltage	V <sub>DC</sub>	V	20	30	40
Maximum average forward rectified current at T <sub>L</sub> (Fig.1)	I <sub>O</sub>	A	2.0		
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, T <sub>f</sub> =25°C	I <sub>FSM</sub>	A	50		
Voltage rate of change (rated V <sub>R</sub> )	dV/dt	V/μs	10000		
Storage temperature	T <sub>stg</sub>	°C	-55 ~+150		
Junction temperature	T <sub>J</sub>	°C	-55 ~+150		

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

PARAMETER	SYMBOL	TEST CONDITIONS	TYP	MAX	UNIT	
Instantaneous forward voltage	V <sub>F</sub>	I <sub>F</sub> =2A	T <sub>J</sub> =25°C	0.5	0.55	V
			T <sub>J</sub> =125°C	-	0.45	
Reverse current	I <sub>R</sub>	Rated V <sub>R</sub>	T <sub>J</sub> =25°C	10	200	μA
			T <sub>J</sub> =125°C		8	mA
Typical junction capacitance	C <sub>J</sub>	V <sub>R</sub> =4V,f=1MHz	115	-	pF	



# S22Q THRU S24Q

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

PARAMETER	SYMBOL	UNIT	S22Q	S23Q	S24Q
Thermal Resistance	R <sub>θJ-A</sub>	°C/W	85 <sup>(1)</sup>		
	R <sub>θJ-L</sub>		35 <sup>(1)</sup>		

Note:  
 (1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm\*3mm copper pad areas.

## ■ Characteristics (Typical)

Fig.1: Forward Current Derating Curve

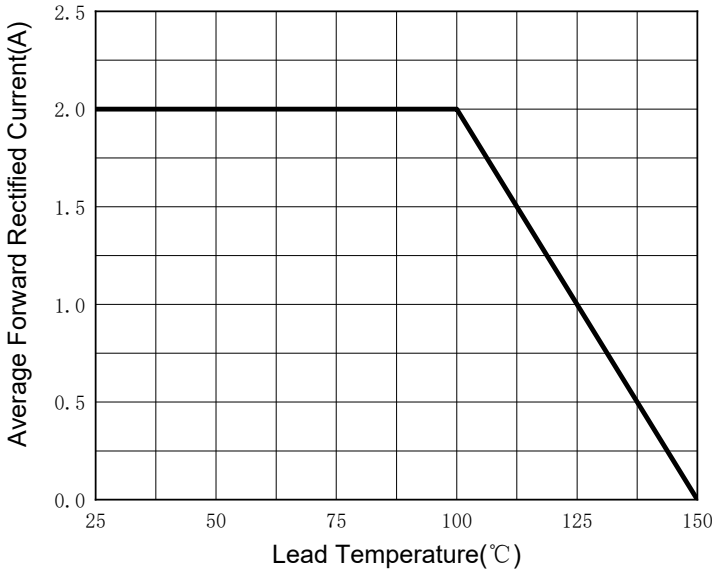


Fig.2: Maximum Non-Repetitive Peak Forward Surge Current

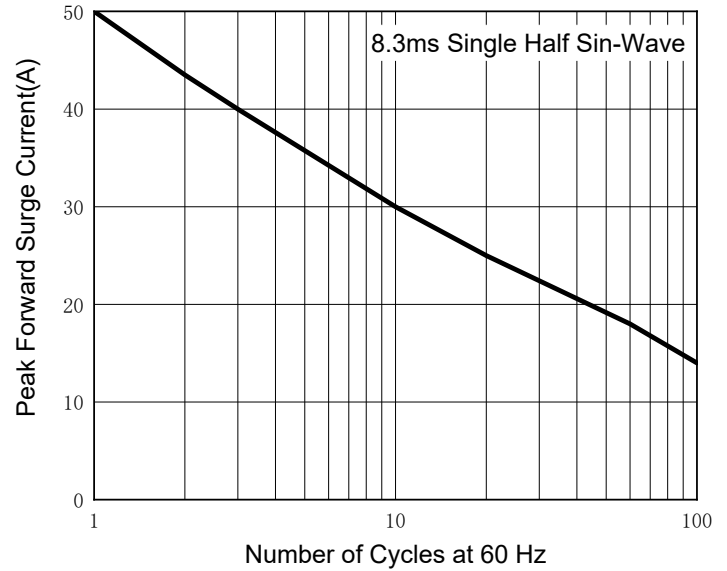


Fig.3: Typical Instantaneous Forward Characteristics

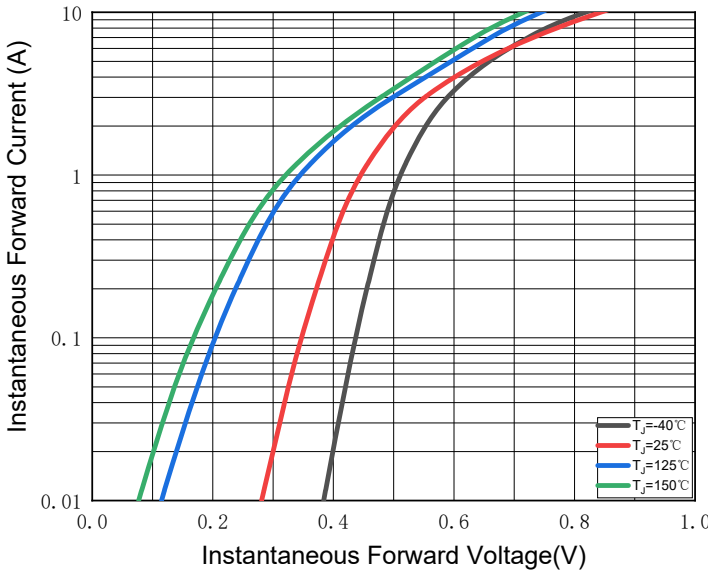
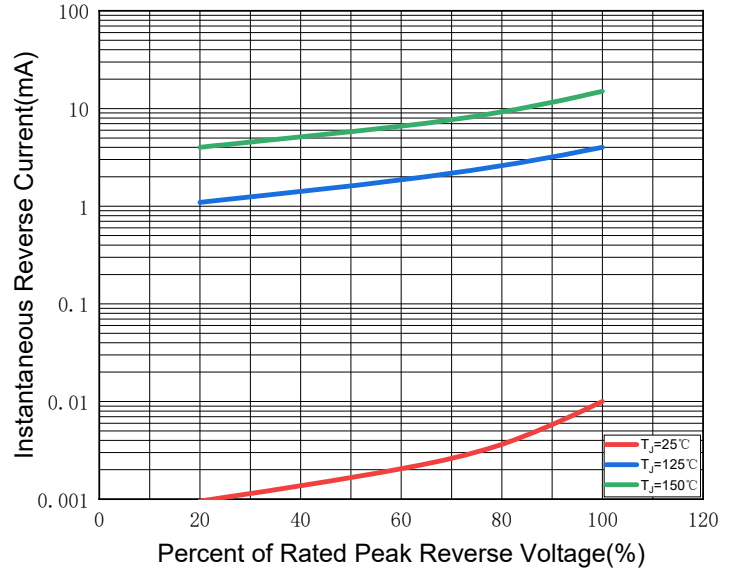


Fig.4: Typical Reverse Leakage Characteristics



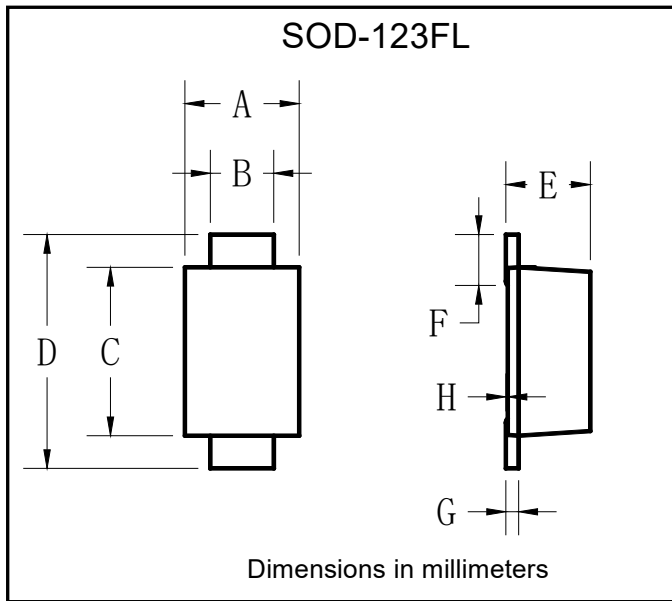
## ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
S22Q THRU S24Q	F1	Approximate 0.0169	3000	120000	7" reel



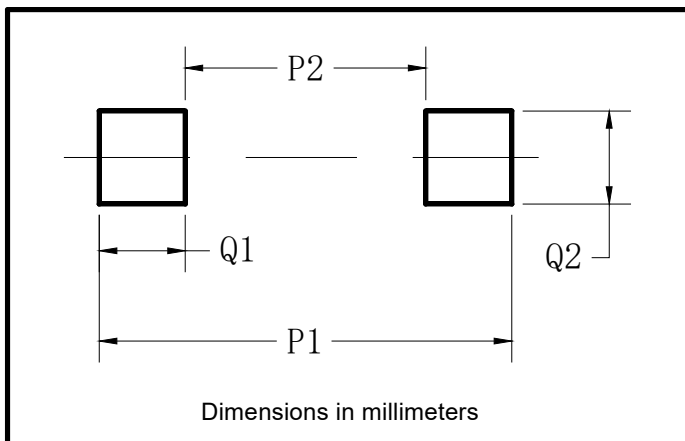
## S22Q THRU S24Q

### ■ 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



## S22Q THRU S24Q

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### Disclaimer

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