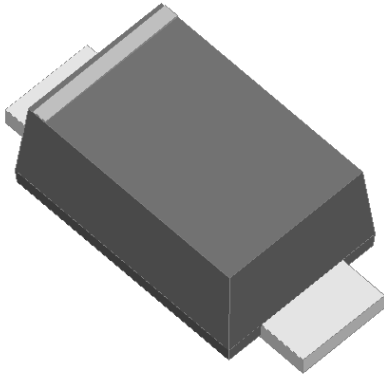


Surface Mount Schottky Rectifier

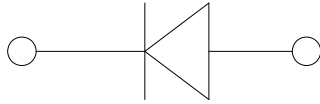


Features

- 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_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S22Q	S23Q	S24Q
Device marking code			S22	S23	S24
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	2.0		
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, T _J =25°C	I _{FSM}	A	50		
Voltage rate of change (rated V _R)	dV/dt	V/μs	10000		
Storage temperature	T _{stg}	°C	-55 ~+150		
Junction temperature	T _J	°C	-55 ~+150		

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

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



S22Q THRU S24Q

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

PARAMETER	SYMBOL	UNIT	S22Q	S23Q	S24Q
Thermal Resistance	R _{θJ-A}	°C/W	85 ⁽¹⁾		
	R _{θJ-L}		35 ⁽¹⁾		

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

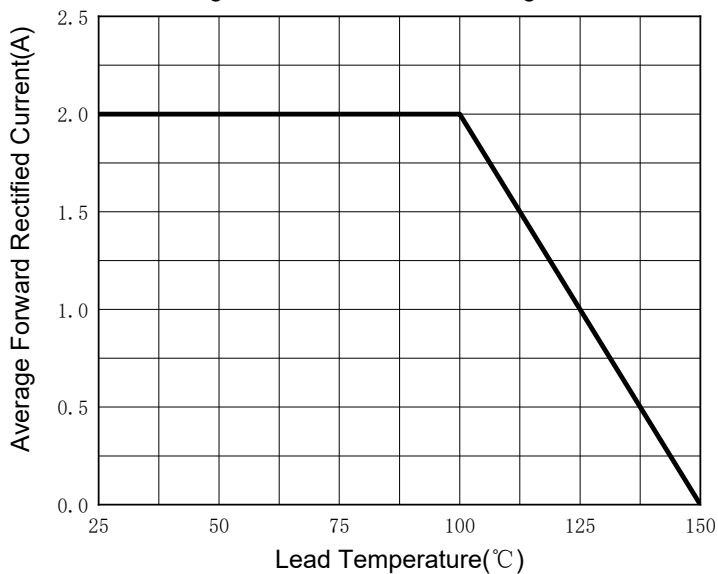


Fig.2:Maximum Non-Repetitive Peak Forward Surge Current

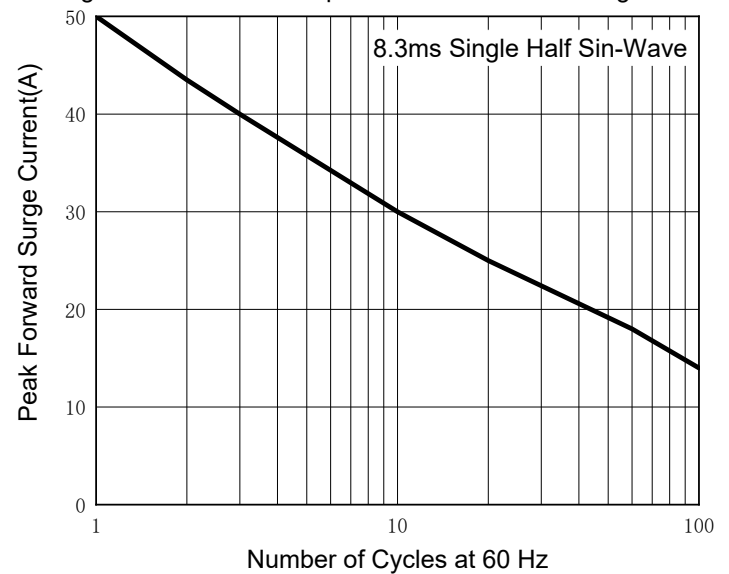


Fig.3:Typical Instantaneous Forward Characteristics

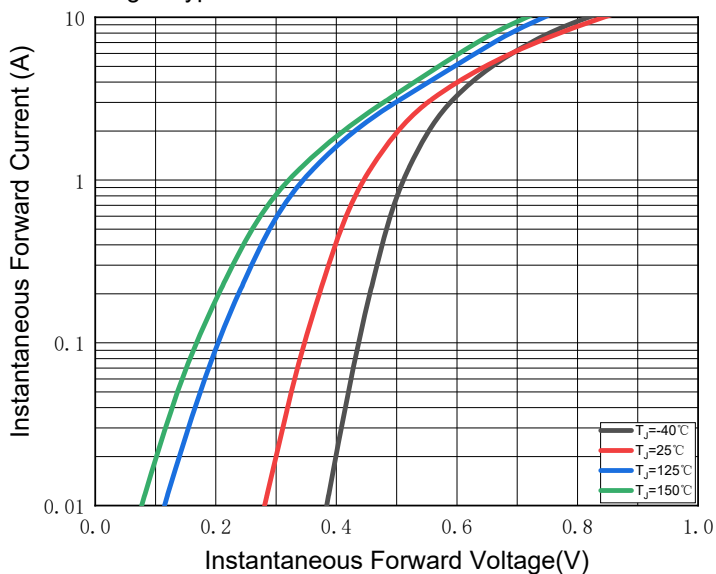
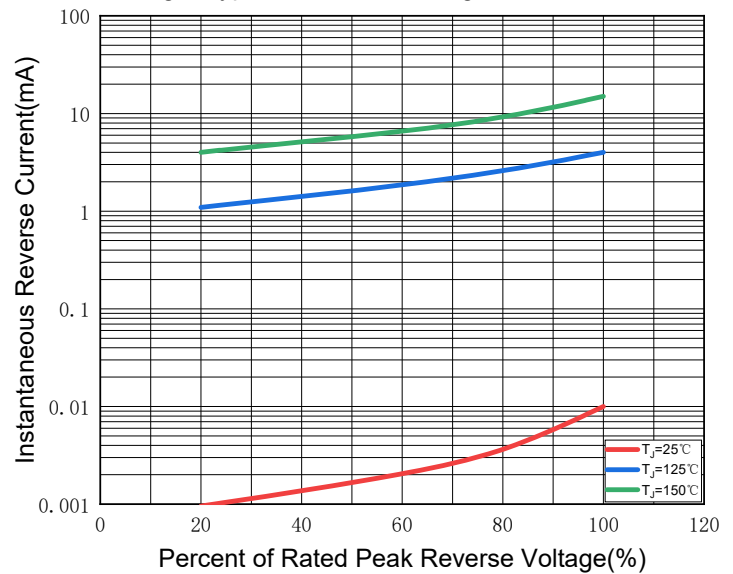


Fig.4:Typical Reverse Leakage Characteristics



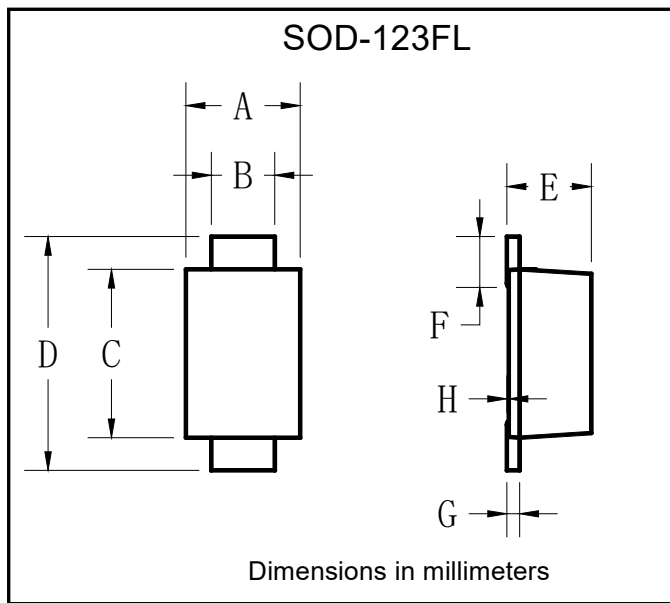
■ Ordering Information (Example)

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



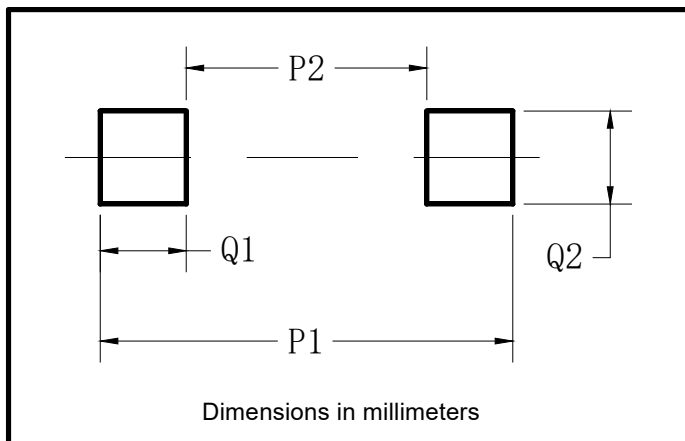
S22Q THRU S24Q

■ 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	0.05

■ Suggested pad layout



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



S22Q THRU S24Q

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with automotive electronics, are not designed for use in medical, lifesaving, lifesustaining, or military. Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.