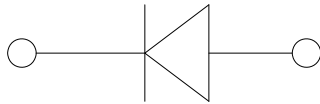
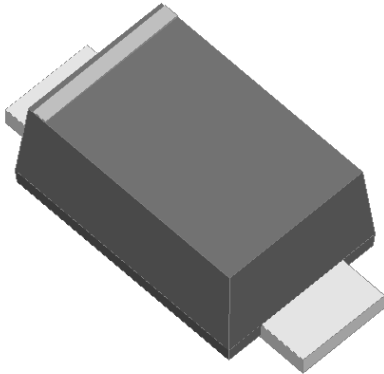


Surface Mount Schottky Rectifier



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 Date

- **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 ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S12Q	S13Q	S14Q	S15Q	S16Q	S18Q	S110Q
Device marking code			S12	S13	S14	S15	S16	S18	S110
Repetitive peak reverse voltage	V_{RRM}	V	20	30	40	50	60	80	100
Average rectified output current @60Hz sine wave, Resistance load, T_L (FIG.1)	I_O	A	1.0						
Surge(non-repetitive)forward current @60Hz half-sine wave, 1 cycle, $T_J=25^\circ\text{C}$	I_{FSM}	A	30						
Storage temperature	T_{stg}	$^\circ\text{C}$	-55 ~+150						
Junction temperature	T_J	$^\circ\text{C}$	-55 ~+125			-55 ~+150			

■Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	S12Q	S13Q	S14Q	S15Q	S16Q	S18Q	S110Q
Maximum instantaneous forward voltage drop per diode	V_F	V	$I_{FM}=1.0A$	0.50			0.70		0.85	
Maximum DC reverse current at rated DC blocking voltage per diode @ $V_{RM}=V_{RRM}$	I_{RRM}	mA	$T_a=25^\circ\text{C}$	0.50					0.10	
			$T_a=100^\circ\text{C}$	10					5	



S12Q THRU S110Q

■ Thermal Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S12Q	S13Q	S14Q	S15Q	S16Q	S18Q	S110Q
Thermal Resistance	$R_{\theta J-A}$	$^\circ\text{C/W}$	70 ¹⁾						
	$R_{\theta J-L}$		20 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)

FIG1: I_o-T_L Curve

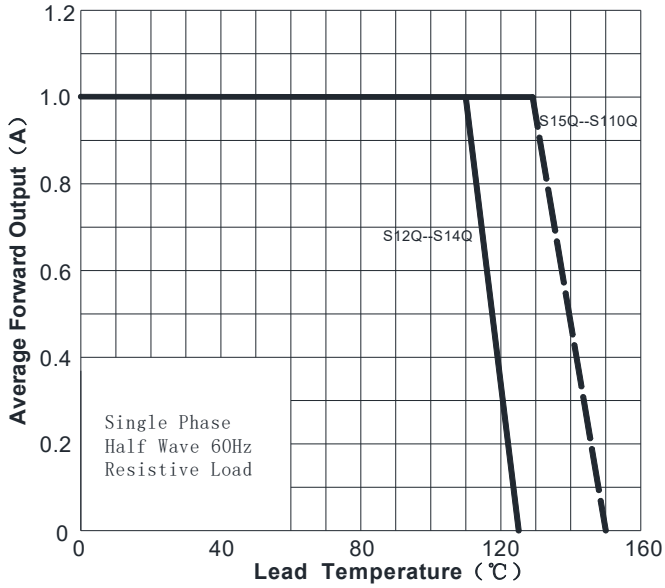


FIG2: Surge Forward Current Capability

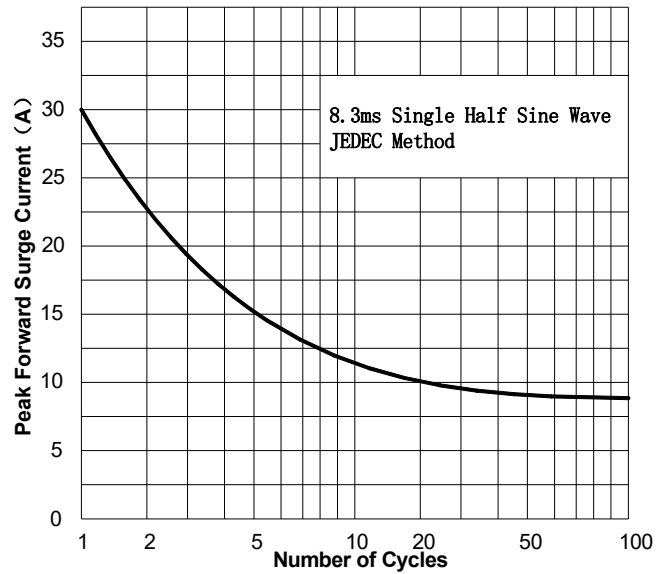


FIG3: Forward Voltage

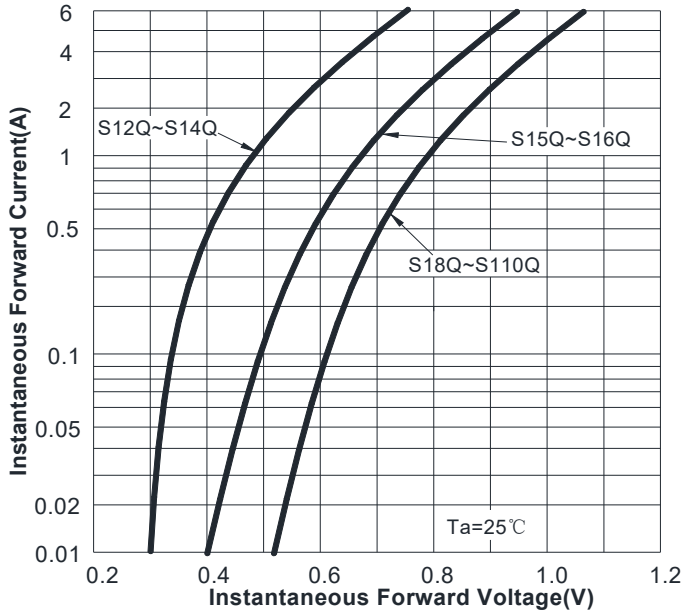
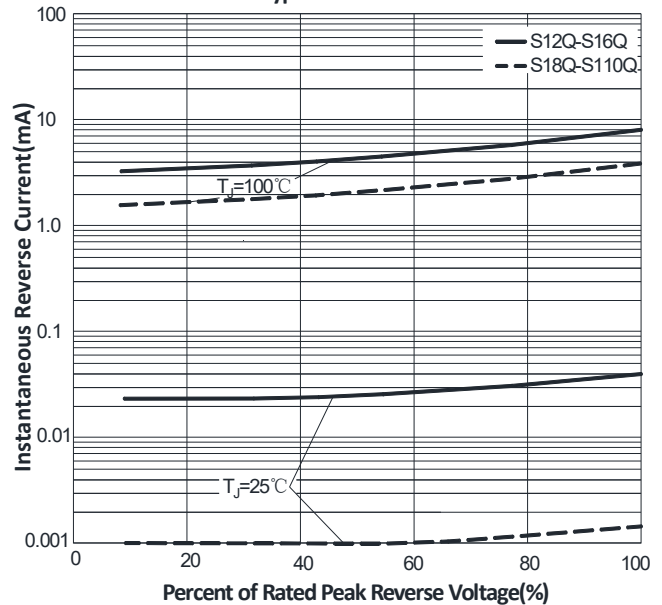


FIG4: Typical Reverse Characteristics



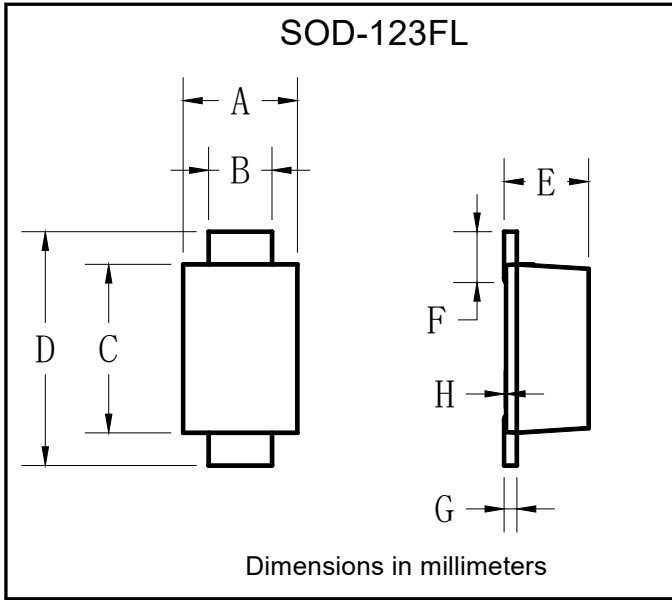


S12Q THRU S110Q

Ordering Information (Example)

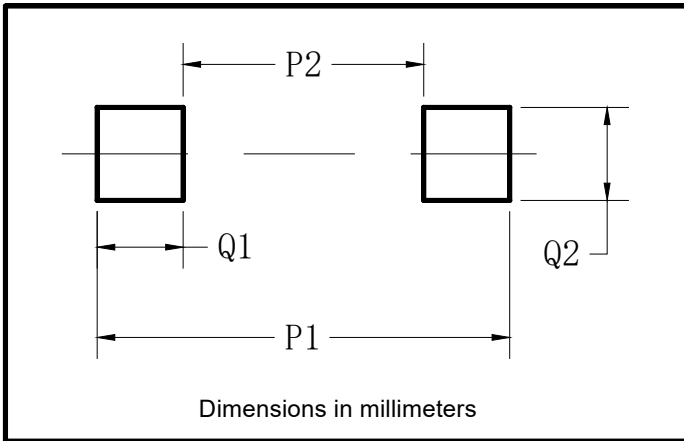
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
S12Q THRU S110Q	F1	Approximate 0.0169	3000	15000	120000	7" reel

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



S12Q THRU S110Q

Disclaimer

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