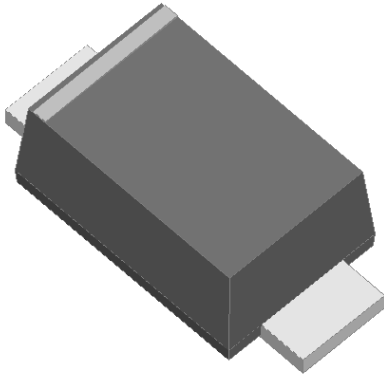


## Surface Mount Schottky Rectifier

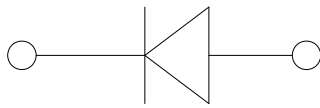


### Features

- 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	S16Q
Device marking code			S16
Repetitive peak reverse voltage	$V_{RRM}$	V	60
Maximum RMS voltage	$V_{RMS}$	V	42
Maximum DC blocking voltage	$V_{DC}$	V	60
Maximum average forward rectified current at $T_L$ (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	40
Voltage rate of change (rated $V_R$ )	dV/dt	V/ $\mu\text{s}$	10000
Storage temperature	$T_{stg}$	$^\circ\text{C}$	-55 ~+150
Junction temperature	$T_J$	$^\circ\text{C}$	-55 ~+150

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

PARAMETER	SYMBOL	TEST CONDITIONS	TYP	MAX	UNIT	
Instantaneous forward voltage	$V_F$	$I_F=1\text{A}$	$T_J=25^\circ\text{C}$	0.5	0.7	V
			$T_J=125^\circ\text{C}$	0.45	0.55	
Reverse current	$I_R$	Rated $V_R$	$T_J=25^\circ\text{C}$	-	50	$\mu\text{A}$
			$T_J=125^\circ\text{C}$	-	10	mA
Typical junction capacitance	$C_J$	$V_R=4\text{V}, f=1\text{MHz}$	75	-	pF	



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

PARAMETER	SYMBOL	UNIT	S16Q
Thermal resistance	$R_{\theta J-A}$	$^\circ\text{C/W}$	85 <sup>(1)</sup>
	$R_{\theta J-L}$		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

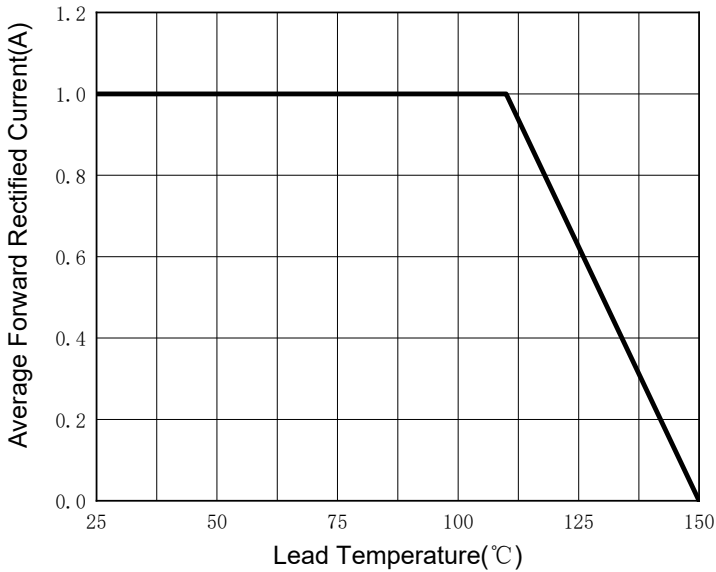


Fig.2: Maximum Non-Repetitive Peak Forward Surge Current

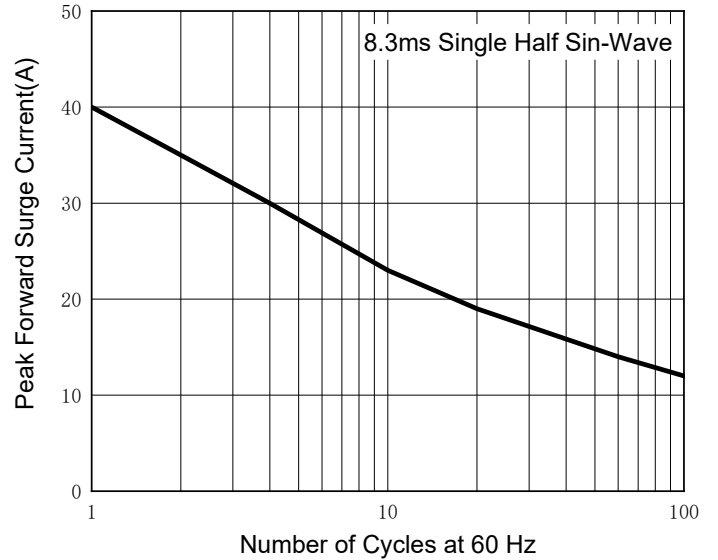


Fig.3: Typical Instantaneous Forward Characteristics

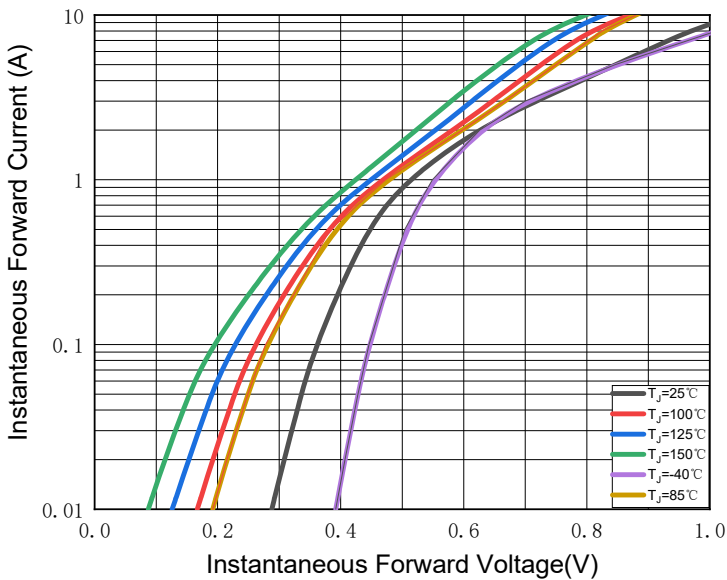
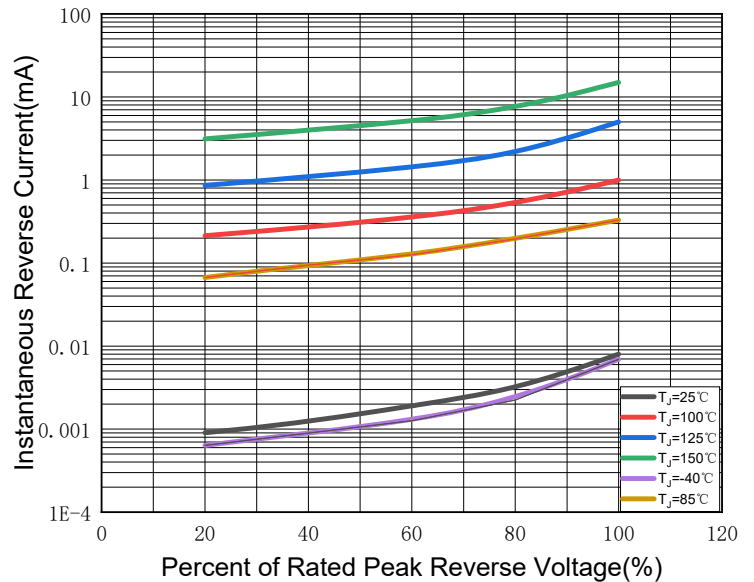


Fig.4: Typical Reverse Leakage Characteristics



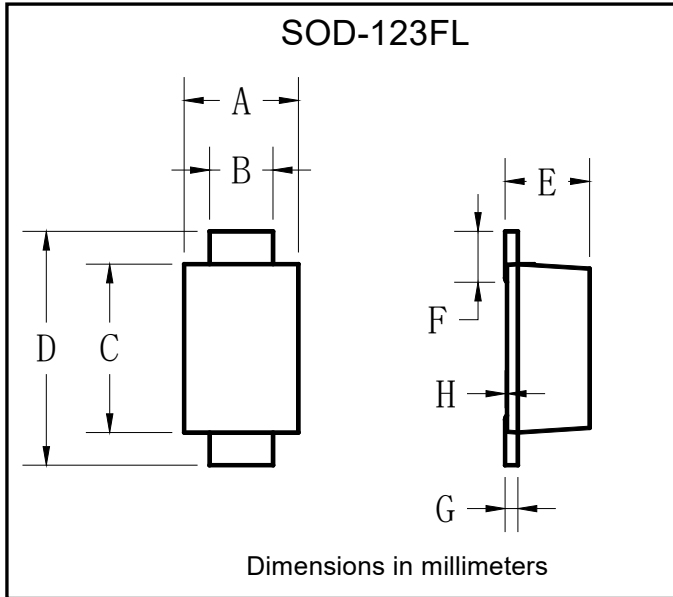


# S16Q

## Ordering Information (Example)

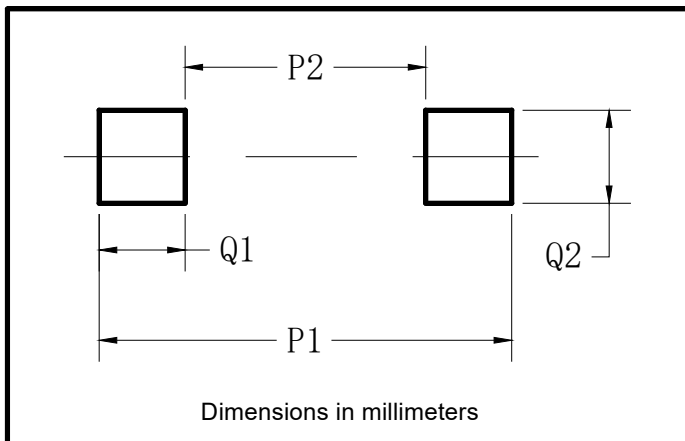
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
S16Q	F1	Approximate 0.0169	3000	120000	7" reel

## 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



## S16Q

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