

Surface Mount Schottky Rectifier

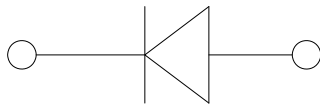


Features

- 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 (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S36Q
Device marking code			S36
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	3.0
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, T _J =25°C	I _{FSM}	A	80
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 =3A	T _J =25°C	0.6	0.7	V
			T _J =125°C	0.54		
Reverse current	I _R	Rated V _R	T _J =25°C	7	100	μA
			T _J =125°C	-	10	mA
Typical junction capacitance	C _J	V _R =4V,f=1MHz	135	-	pF	



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

PARAMETER	SYMBOL	UNIT	S36Q
Thermal Resistance	$R_{\theta J-A}$	°C/W	85 ⁽¹⁾
	$R_{\theta J-L}$		35 ⁽¹⁾

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

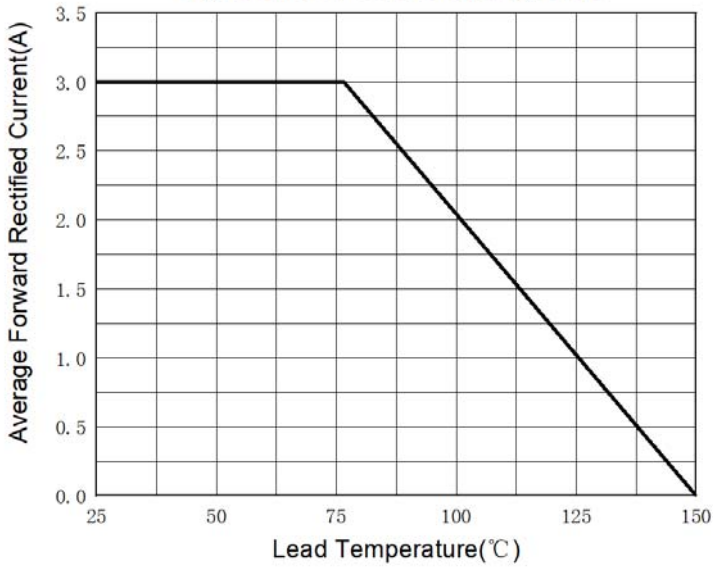


Fig.2:Maximum Non-Repetitive Peak Forward Surge Current

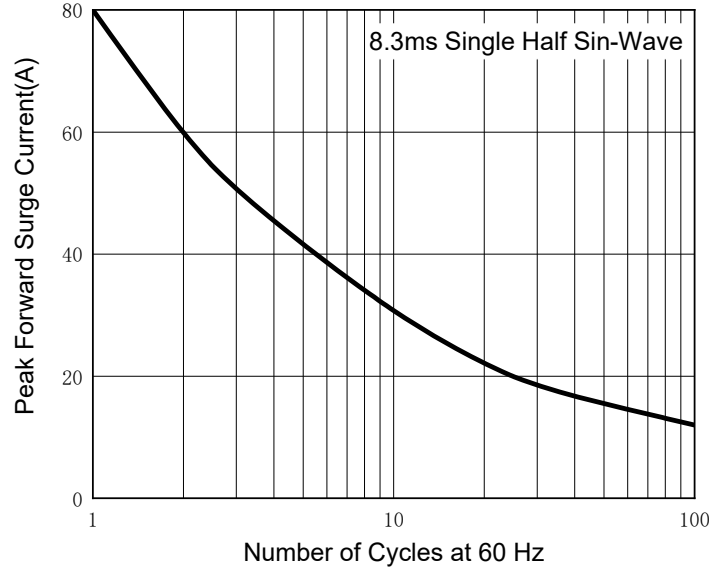


Fig.3:Typical Instantaneous Forward Characteristics

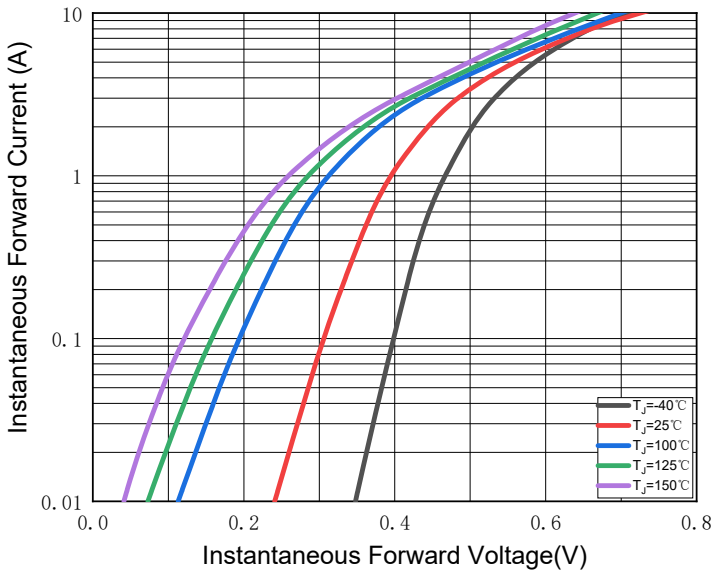


Fig.4:Typical Reverse Leakage Characteristics

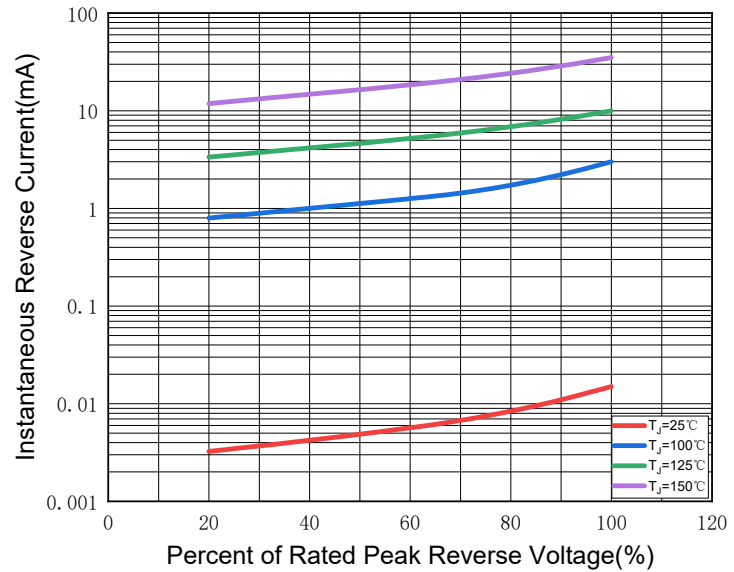
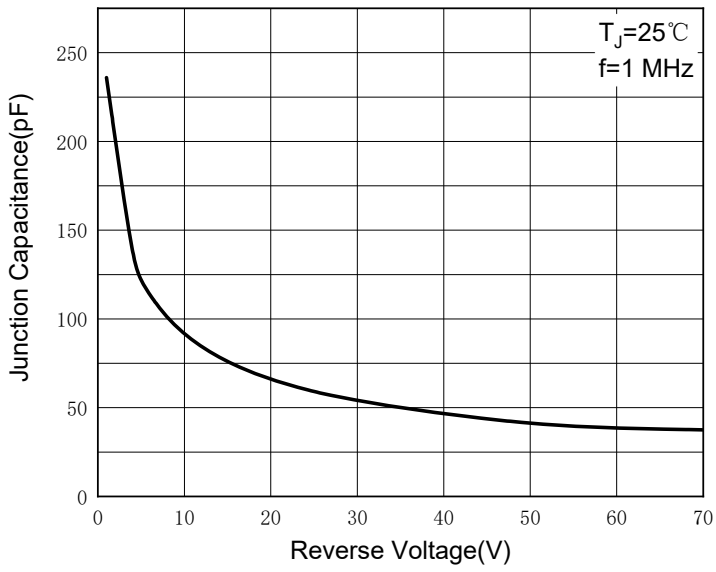
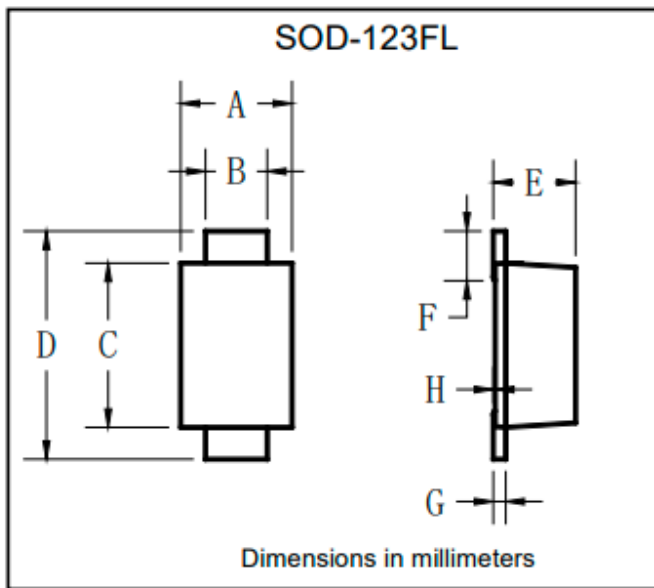


Fig.5: Typical Junction Capacitance

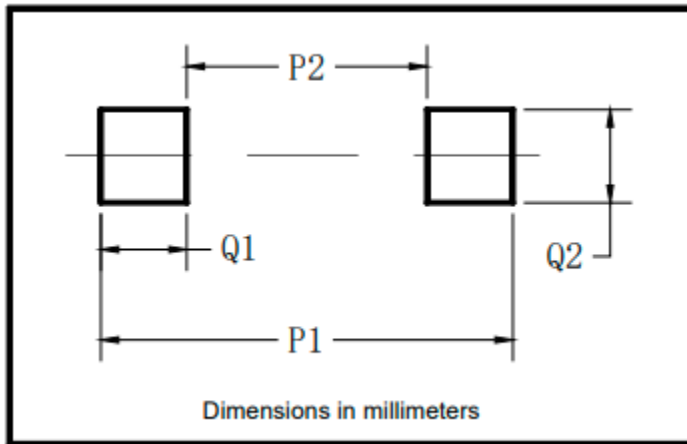


■ Outline Dimensions



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

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
S36Q	F1	Approximate 0.0169	3000	120000	7" reel



S36Q

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