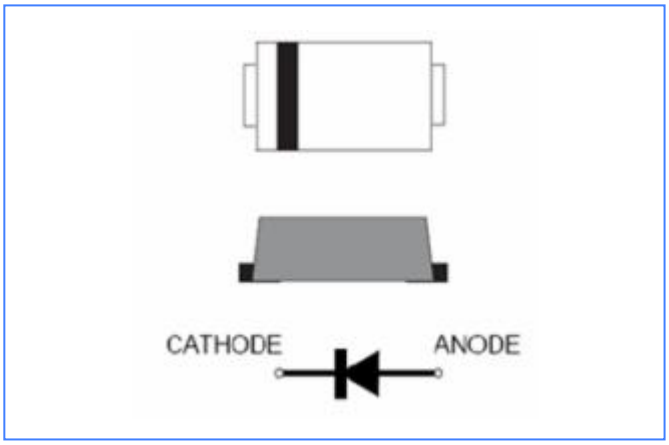
SS12 thru SS120 SOD-123FL

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low power loss,high efficiency
- For use in low voltage high frequency inverters, free wheeling,and polarity protection applications
- Guardring for over voltage protection
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Case: SOD123-FL/MINI SMA
- Terminals: Tin Plated, solderable per MIL-STD-750, Method 2026



Definitions and Terms

V_{RRM}：Maximum Recurrent Peak Reverse Voltage

V_{RMS}：Maximum RMS Voltage

V_{DC}：Maximum DC Blocking Voltage

$I_{F(AV)}$：Maximum Average Forward Current at TL=75 o C

I_{FSM}：Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load (JEDEC method)

V_F：Maximum Forward Voltage at 1.0A

I_R：Maximum DC Reverse Current at Rated DC Blocking Voltage

$R_{\theta JL}$:Typical Thermal Resistance — Junction−to−Lead

$R_{\theta JA}$:Typical Thermal Resistance — Junction−to−Ambient

T_J , T_{STG}：Operating Junction and Storage Temperature Range

Maximum & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified

PARAMETER	SS12	SS13	SS14	SS15	SS16	SS18	SS110	SS115	SS120	Unit
V_{RRM}	20	30	40	50	60	80	100	150	200	V
V_{RMS}	14	21	28	35	42	56	70	105	140	V
V_{DC}	20	30	40	50	60	80	100	150	200	V
$I_{F(AV)}$	1.0									A
I_{FSM}	30									A
$R_{\theta JA}$	110									°C/
$R_{\theta JC}$	40									W
T_J	-55 TO +150									°C
T_{STG}	-65 TO +175									°C

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified

Parameter	SYMBOL	SS12	SS13	SS14	SS15	SS16	SS18	SS110	SS115	SS120	Unit
Max. instantaneous froward	V_F										V
Voltage at(IF=0.1A,TJ=25℃)		-	0.35	-	-		-		-	-	
(IF=0.7A,TJ=25℃)		-	0.45	-	-		-		-	-	
(IF=1A,TJ=25℃)		0.5	0.50	0.55	0.7		0.85		0.90	0.92	
Max. DC reverse current at rated	I_R										mA
DC blocking voltage TA=25℃		0.5									
DC blocking voltage Tj=125℃		10									
Typical junction capacitance at 4.0V,1MHz	C_j	160									PF

Typical Characteristics

Fig. 1 - Forward Current Derating Curve

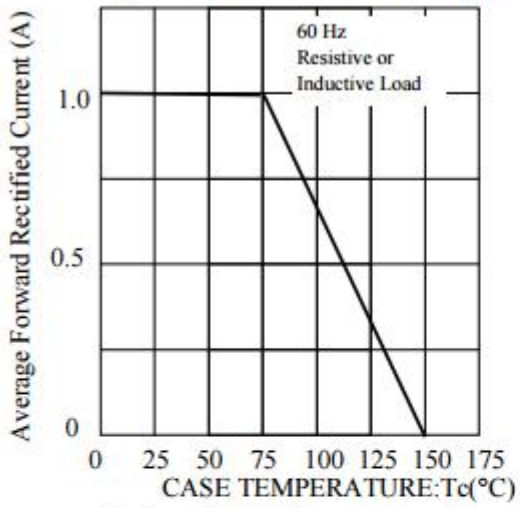


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

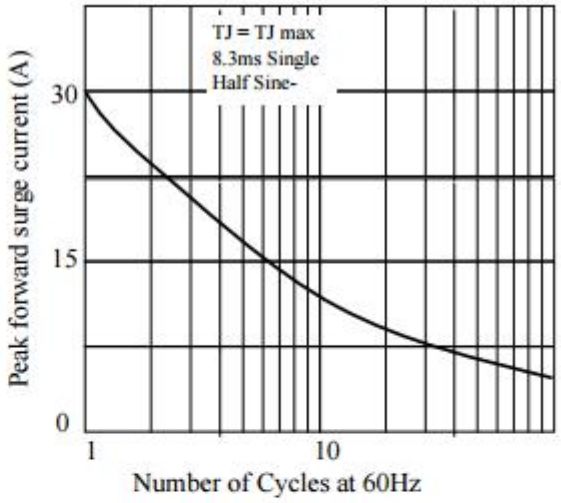


Fig. 3 - Typical Instantaneous Forward Characteristics

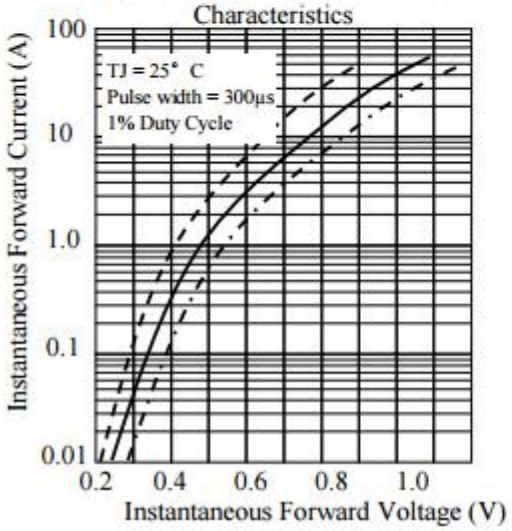


Fig 4. - Typical Reverse Characteristics

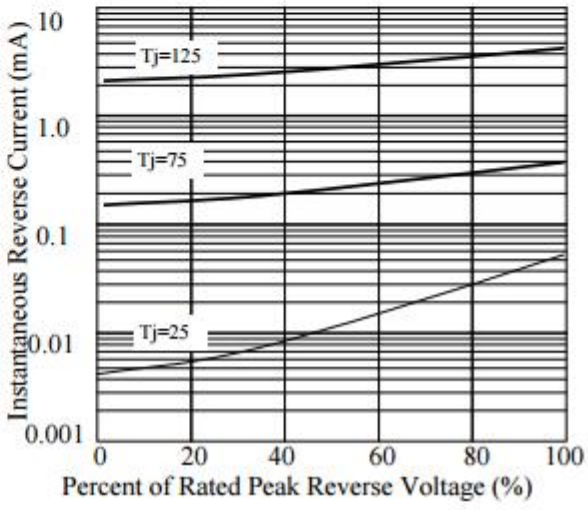


Fig 5. - typical transient thermal impedance

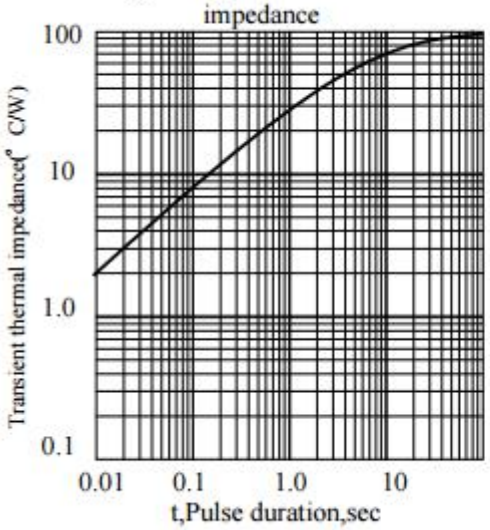
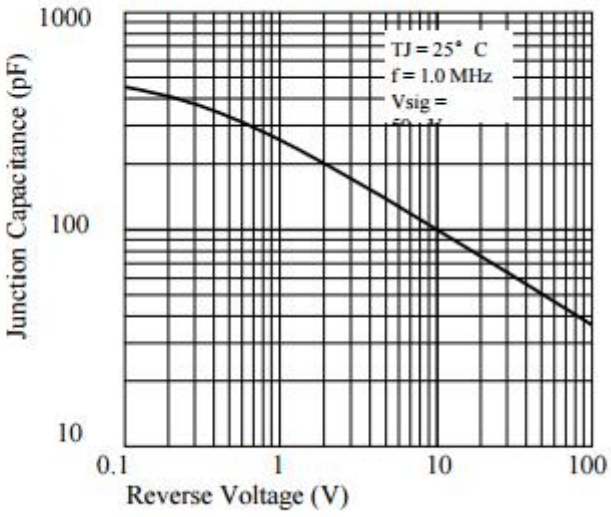
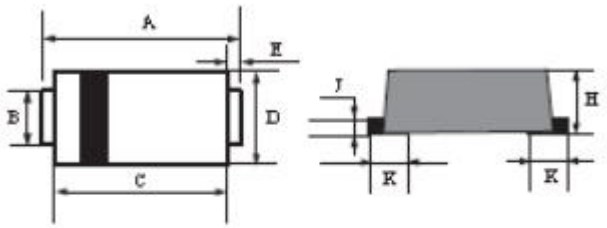


Fig 6. - Typical Junction Capacitance



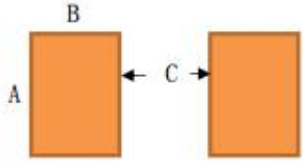
SOD-123 Package Outline Dimensions

SOD123-FL



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.5	3.9	0.138	0.159
B	0.75	0.95	0.029	0.037
C	2.6	3.0	0.103	0.119
D	1.6	2.0	0.063	0.079
E	0.45Typ		0.018Typ	
H	0.9	1.2	0.036	0.047
J	0.12	0.22	0.005	0.009
K	0.8Typ		0.032Typ	

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD123-FL	0.044(1.10	0.040(1.00)	0.079(2.00)

Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.