

## 2A, 20V - 150V Schottky Barrier Surface Mount Rectifier

### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guard ring for overvoltage protection
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- DC to DC converters

### MECHANICAL DATA

- Case: Sub SMA
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.019g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	2	A
$V_{RRM}$	20 - 150	V
$I_{FSM}$	50	A
$T_{JMAX}$	125, 150	°C
Package	Sub SMA	
Configuration	Single die	



Sub SMA



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)											
PARAMETER	SYMBOL	SS 22L	SS 23L	SS 24L	SS 25L	SS 26L	SS 29L	SS 210L	SS 215L	UNIT	
Marking code on the device		22L	23L	24L	25L	26L	29L	20L	2AL		
Repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	90	100	150	V	
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	35	42	63	70	105	V	
Forward current	$I_F$	2								A	
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	50								A	
Critical rate of rise of off-state voltage	dv/dt	10,000								V/ $\mu\text{s}$	
Junction temperature	$T_J$	- 55 to +125			- 55 to +150					°C	
Storage temperature	$T_{STG}$	- 55 to +150									°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-lead thermal resistance	$R_{\theta JL}$	17	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	75	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)							
<b>PARAMETER</b>		<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>	
Forward voltage <sup>(1)</sup>	SS22L SS23L SS24L	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	0.50	V	
	SS25L SS26L			-	0.70	V	
	SS29L SS210L			-	0.85	V	
	SS215L			-	0.95	V	
Reverse current @ rated $V_R$ <sup>(2)</sup>	SS22L SS23L SS24L SS25L SS26L	$T_J = 25^\circ\text{C}$	$I_R$	-	400	$\mu\text{A}$	
	SS29L SS210L SS215L	$T_J = 100^\circ\text{C}$		-	100	$\mu\text{A}$	
	SS22L SS23L SS24L			$T_J = 125^\circ\text{C}$	-	15	mA
	SS25L SS26L				-	10	mA
	SS29L SS210L SS215L	-			-	mA	
	SS22L SS23L SS24L	$T_J = 125^\circ\text{C}$		-	-	mA	
	SS25L SS26L			-	-	mA	
	SS29L SS210L SS215L			-	5	mA	

**Notes:**

1. Pulse test with  $PW = 0.3\text{ms}$
2. Pulse test with  $PW = 30\text{ms}$

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE<sup>(1)</sup></b>	<b>PACKAGE</b>	<b>PACKING</b>
SS2xL	Sub SMA	10,000 / Tape & Reel

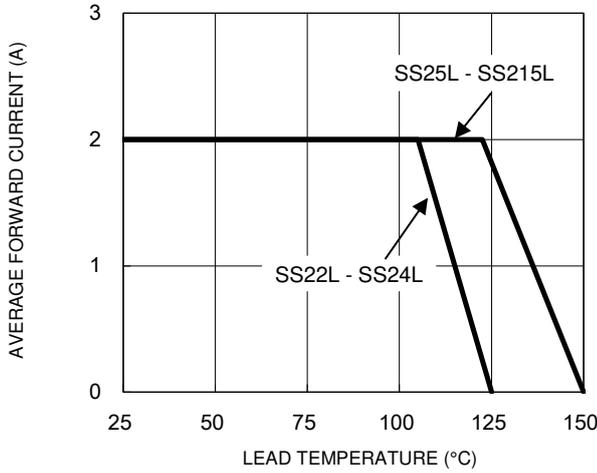
**Notes:**

1. "x" defines voltage from 20V(SS22L) to 150V(SS215L)

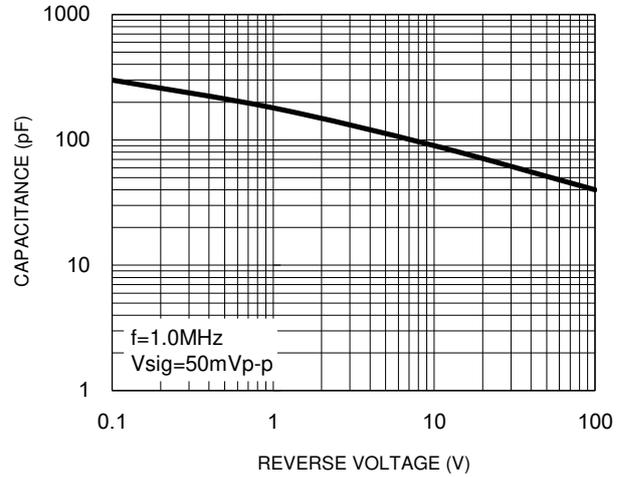
**CHARACTERISTICS CURVES**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

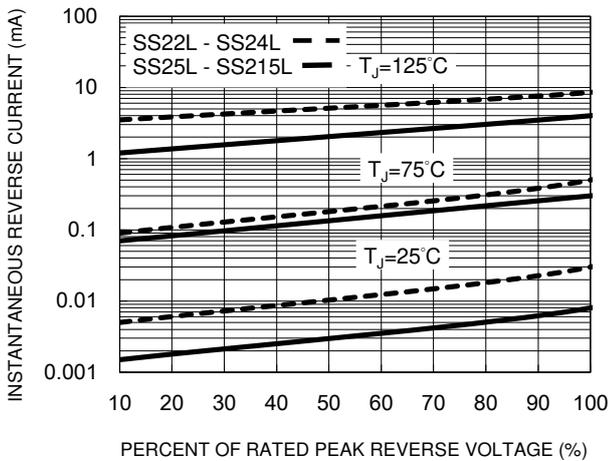
**Fig.1 Forward Current Derating Curve**



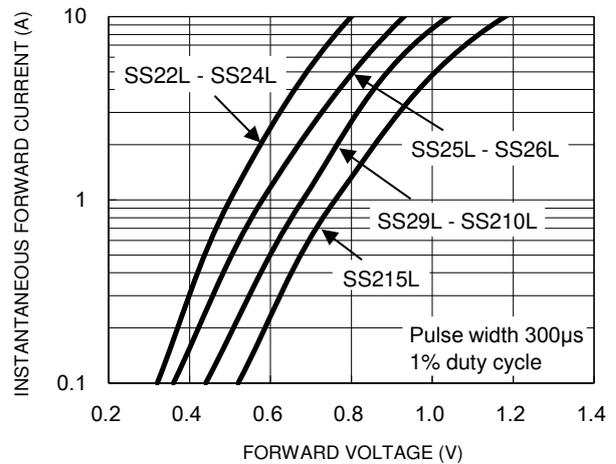
**Fig.2 Typical Junction Capacitance**



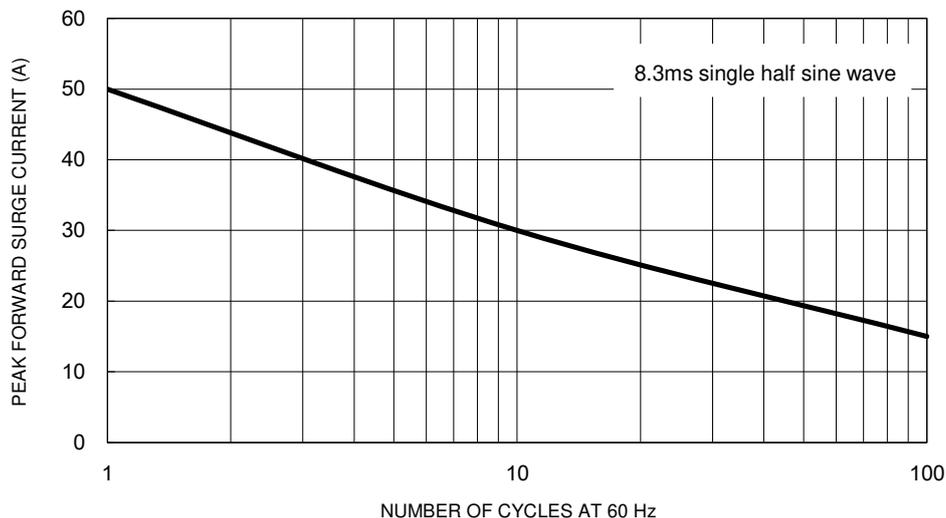
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



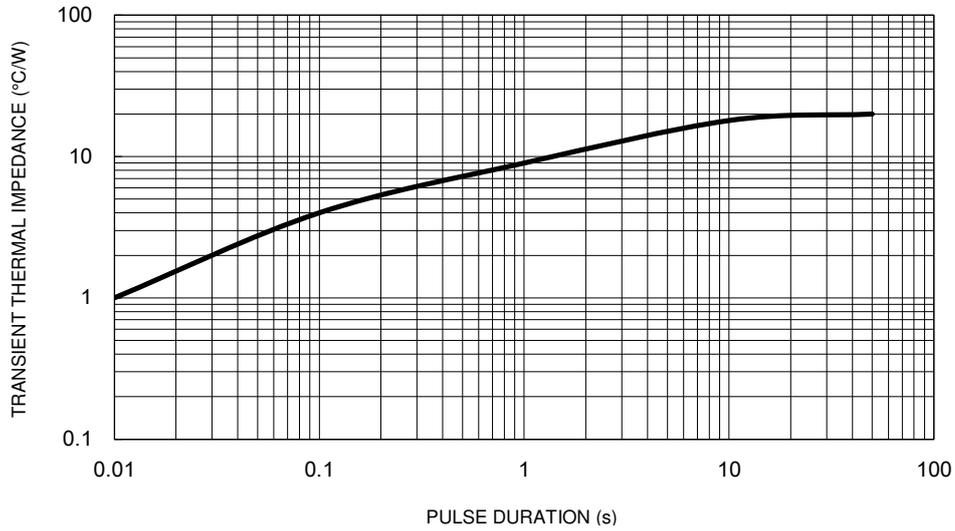
**Fig.5 Maximum Non-Repetitive Forward Surge Current**



**CHARACTERISTICS CURVES**

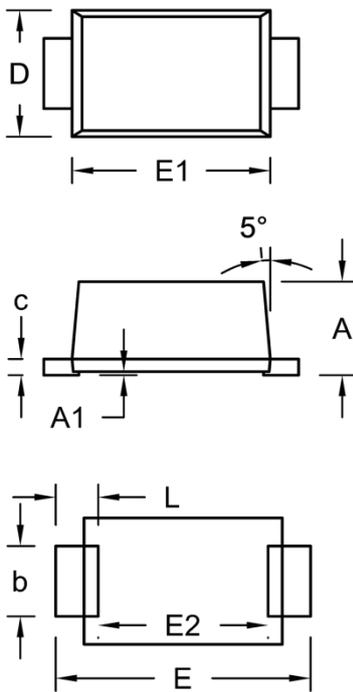
( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Fig.6 Typical Transient Thermal Impedance**



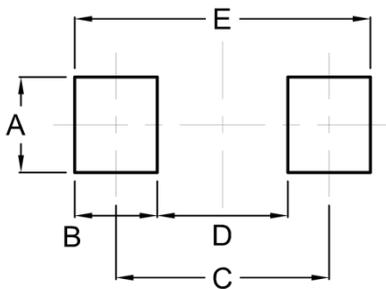
**PACKAGE OUTLINE DIMENSIONS**

Sub SMA



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.23	1.43	0.048	0.056
A1	0.00	0.10	0.000	0.004
b	0.80	1.20	0.031	0.047
c	0.16	0.30	0.006	0.012
D	1.70	1.90	0.067	0.075
E	3.40	3.80	0.134	0.150
E1	2.70	2.90	0.106	0.114
E2	2.45	2.60	0.096	0.102
L	0.35	0.85	0.014	0.033

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	1.40	0.055
B	1.20	0.047
C	3.10	0.122
D	1.90	0.075
E	4.30	0.169

**MARKING DIAGRAM**



- P/N = Marking Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

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