

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

### FEATURES

- AEC-Q101 qualified
- 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

- Low voltage, high freq. inverter
- DC/DC converter
- Freewheeling diodes
- Reverse battery protection
- Car lighting

### 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 H	SS 23L H	SS 24L H	SS 25L H	SS 26L H	SS 29L H	SS 210L H	SS 215L H	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

**THERMAL PERFORMANCE**

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

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage <sup>(1)</sup>	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	0.50	V
			-	0.70	V
			-	0.85	V
			-	0.95	V
Reverse current @ rated $V_R$ <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	400	$\mu\text{A}$
			-	100	$\mu\text{A}$
			-	15	mA
	$T_J = 100^\circ\text{C}$		-	10	mA
			-	-	mA
			-	-	mA
	$T_J = 125^\circ\text{C}$		-	-	mA
			-	-	mA
			-	5	mA

**Notes:**

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

**ORDERING INFORMATION**

ORDERING CODE <sup>(1)</sup>	PACKAGE	PACKING
SS2xLH	Sub SMA	10,000 / Tape & Reel

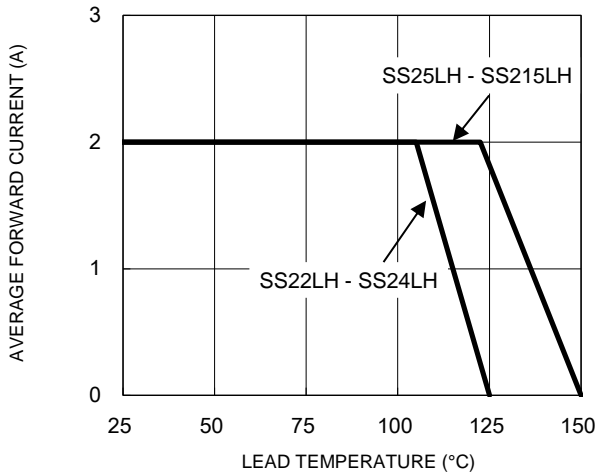
**Notes:**

1. "x" defines voltage from 20V(SS22LH) to 150V(SS215LH)

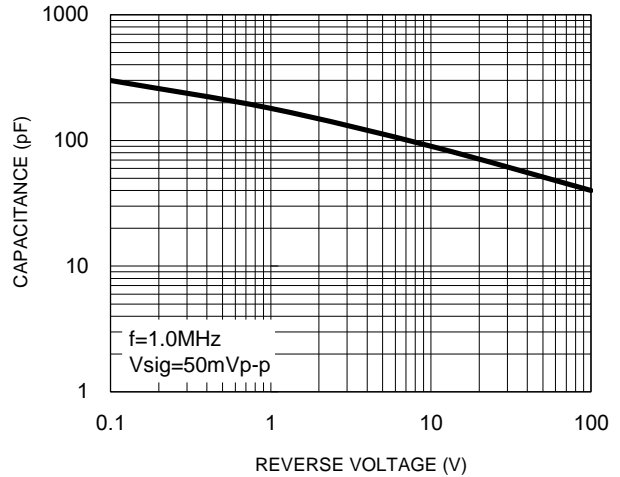
**CHARACTERISTICS CURVES**

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

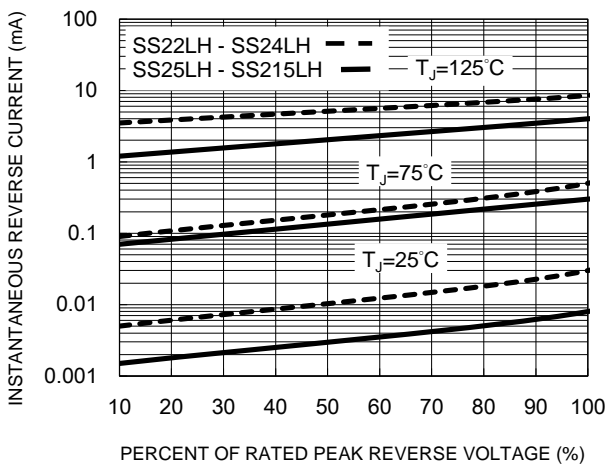
**Fig.1 Forward Current Derating Curve**



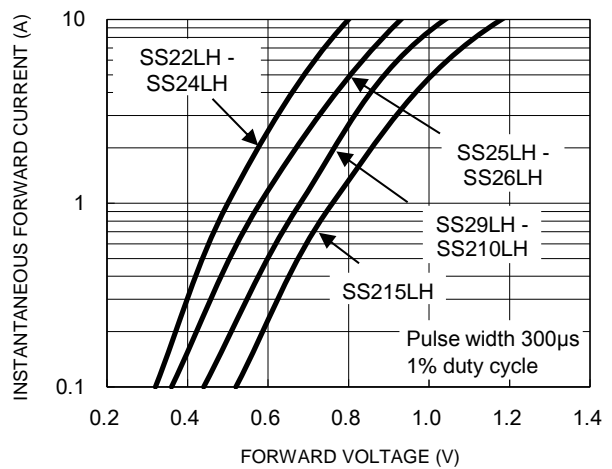
**Fig.2 Typical Junction Capacitance**



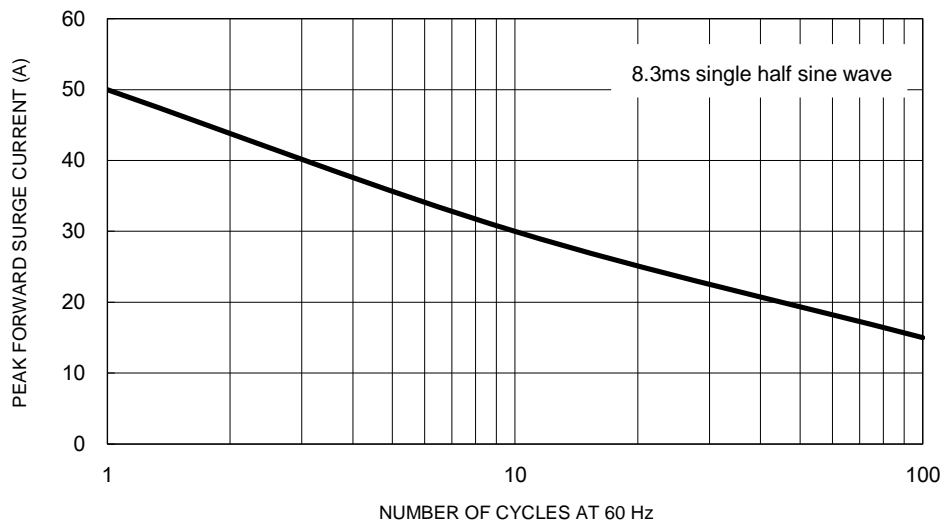
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



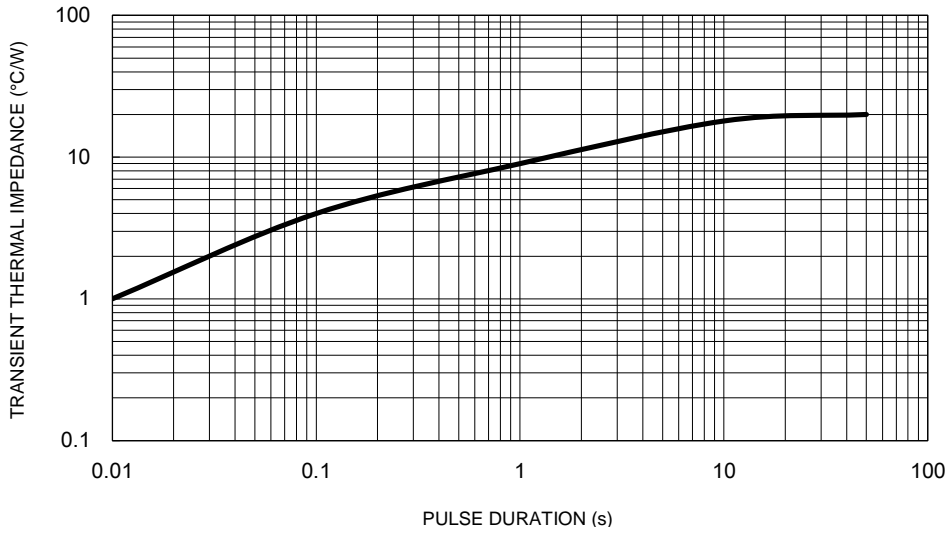
**Fig.5 Maximum Non-Repetitive Forward Surge Current**



**CHARACTERISTICS CURVES**

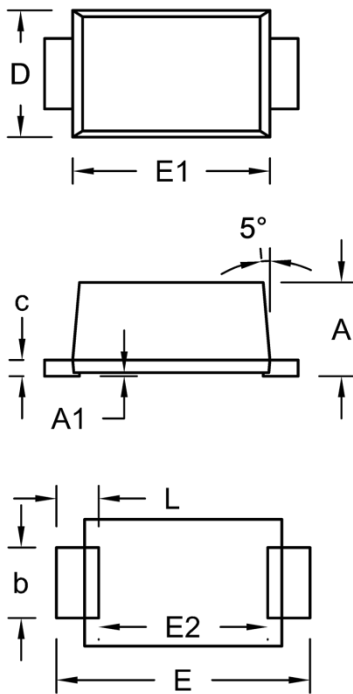
( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Fig.6 Typical Transient Thermal Impedance**



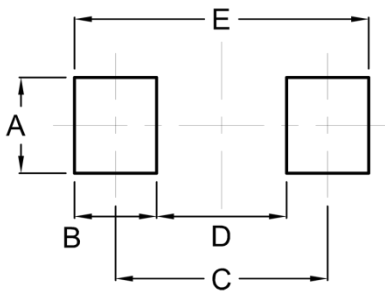
**PACKAGE OUTLINE DIMENSIONS**

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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