

## 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>	SS22LH SS23LH SS24LH	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	0.50	V	
	SS25LH SS26LH			-	0.70	V	
	SS29LH SS210LH			-	0.85	V	
	SS215LH			-	0.95	V	
Reverse current @ rated $V_R$ <sup>(2)</sup>	SS22LH SS23LH SS24LH SS25LH SS26LH	$T_J = 25^\circ\text{C}$	$I_R$	-	400	$\mu\text{A}$	
	SS29LH SS210LH SS215LH	$T_J = 100^\circ\text{C}$		-	100	$\mu\text{A}$	
	SS22LH SS23LH SS24LH			$T_J = 125^\circ\text{C}$	-	15	mA
	SS25LH SS26LH				-	10	mA
	SS29LH SS210LH SS215LH	-			-	mA	
	SS22LH SS23LH SS24LH	$T_J = 125^\circ\text{C}$		-	-	mA	
	SS25LH SS26LH			-	-	mA	
	SS29LH SS210LH SS215LH			-	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

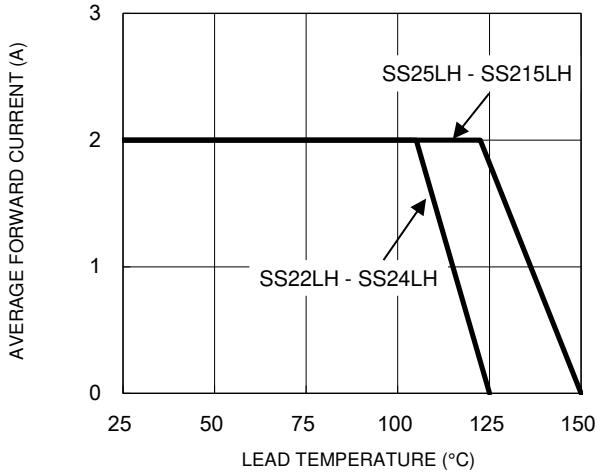
**Notes:**

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

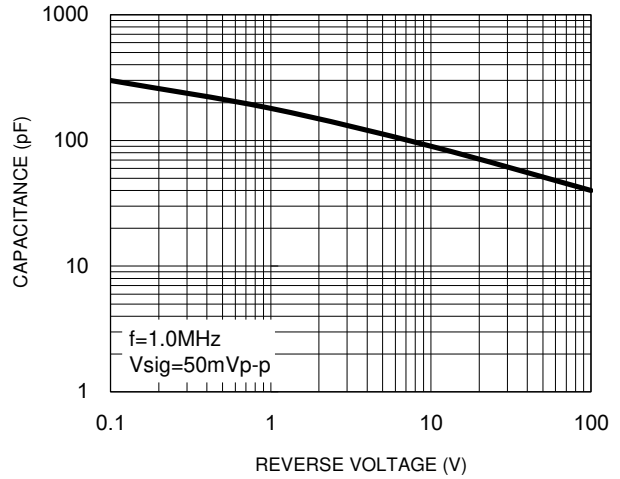
**CHARACTERISTICS CURVES**

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

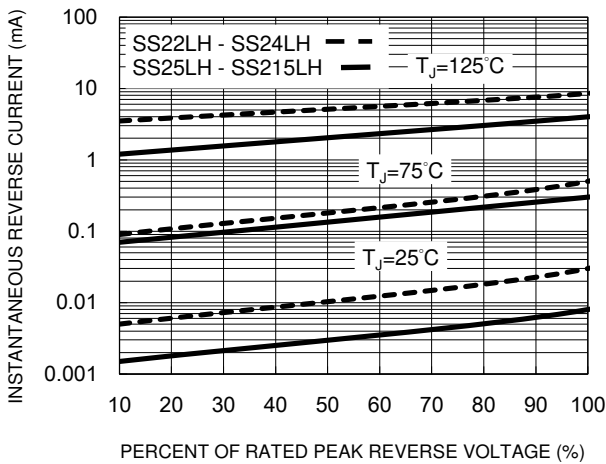
**Fig.1 Forward Current Derating Curve**



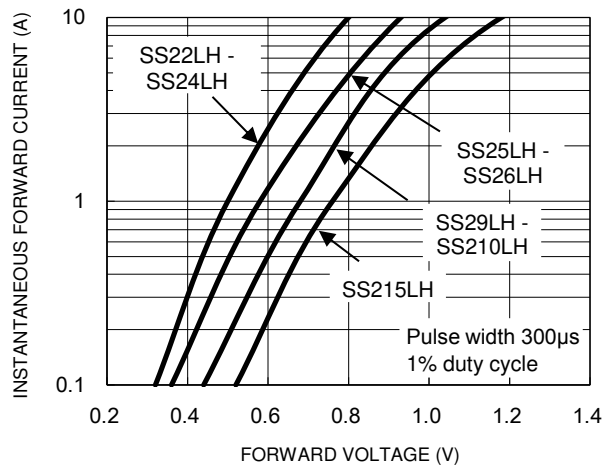
**Fig.2 Typical Junction Capacitance**



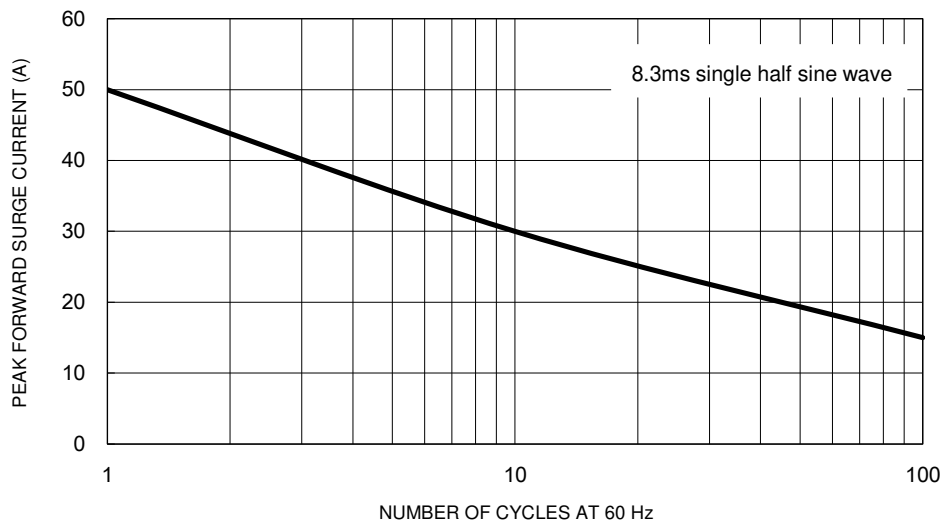
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



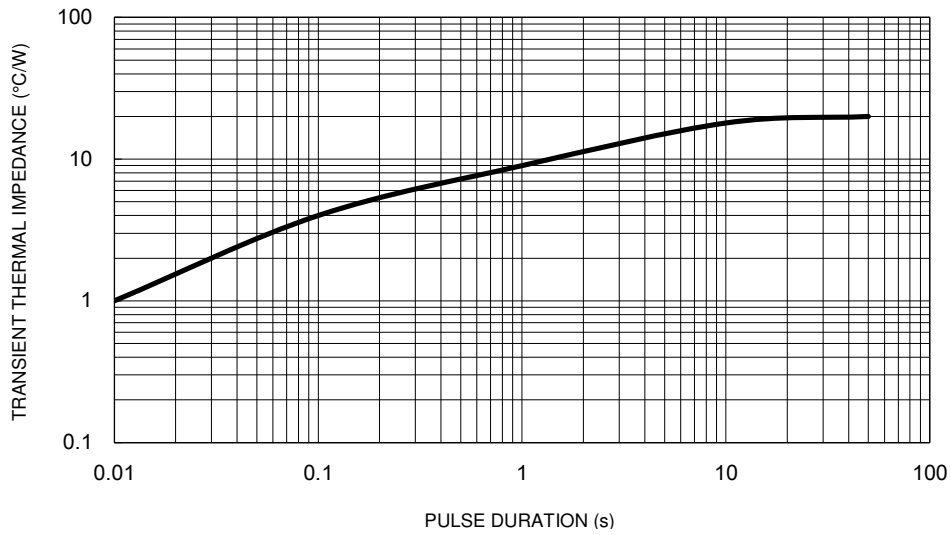
**Fig.5 Maximum Non-Repetitive Forward Surge Current**



**CHARACTERISTICS CURVES**

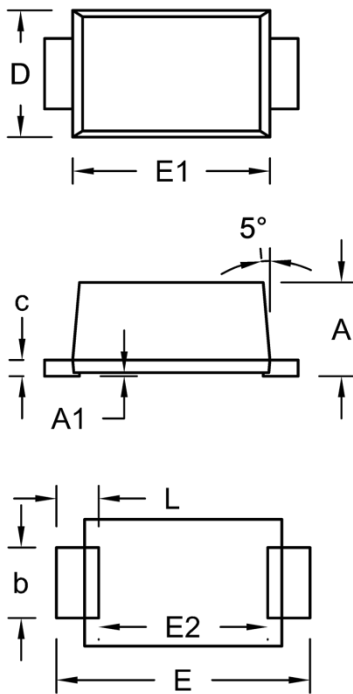
( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Fig.6 Typical Transient Thermal Impedance**



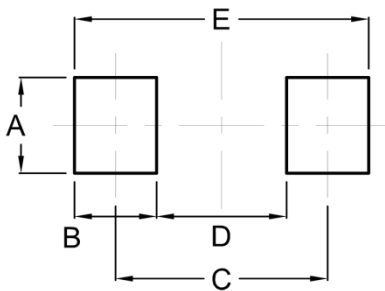
**PACKAGE OUTLINE DIMENSIONS**

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

## **Notice**

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.