

## 2A, 20V - 40V Surface Mount Schottky Barrier Rectifier

### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guard ring for over-voltage protection
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Monitor
- TV

### MECHANICAL DATA

- Case: DO-214AA (SMB)
- Molding compound meets UL 94V-0 flammability rating
- Part no. with suffix "H" means AEC-Q101 qualified
- Packing code with suffix "G" means green compound (halogen-free)
- Moisture sensitivity level: level 1, per J-STD-020
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 0.093 g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	2	A
$V_{RRM}$	20 - 40	V
$T_{J\ MAX}$	125	°C
Package	DO-214AA (SMB)	
Configuration	Signal Die	



**DO-214AA (SMB)**

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	SSL22	SSL23	SSL24	UNIT
Marking code on the device		SL22	SL23	SL24	
Repetitive peak reverse voltage	$V_{RRM}$	20	30	40	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	V
Forward current	$I_{F(AV)}$	2			A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	80			A
Junction temperature	$T_J$	- 55 to +125			°C
Storage temperature	$T_{STG}$	- 55 to +150			°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>LIMIT</b>	<b>UNIT</b>
Junction-to-ambient thermal resistance	$R_{\theta JA}$	70	°C/W
Junction-to-lead thermal resistance	$R_{\theta JL}$	25	°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 per diode <sup>(1)</sup>	$I_F = 2A, T_J = 25^\circ\text{C}$	$V_F$	-	0.41	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	0.4	mA
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	SSL22	$I_R$	-	50	mA
	SSL23				
	SSL24				
$T_J = 100^\circ\text{C}$		-	-	60	mA

**Notes:**

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

<b>ORDERING INFORMATION</b>					
<b>PART NO.</b>	<b>PART NO. SUFFIX(*)</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX(*)</b>	<b>PACKAGE</b>	<b>PACKING</b>
SSL2x (Note 1)	H	R5	G	SMB	850 / 7" Plastic reel
		R4		SMB	3,000 / 13" Paper reel
		M4		SMB	3,000 / 13" Plastic reel

**Note:**

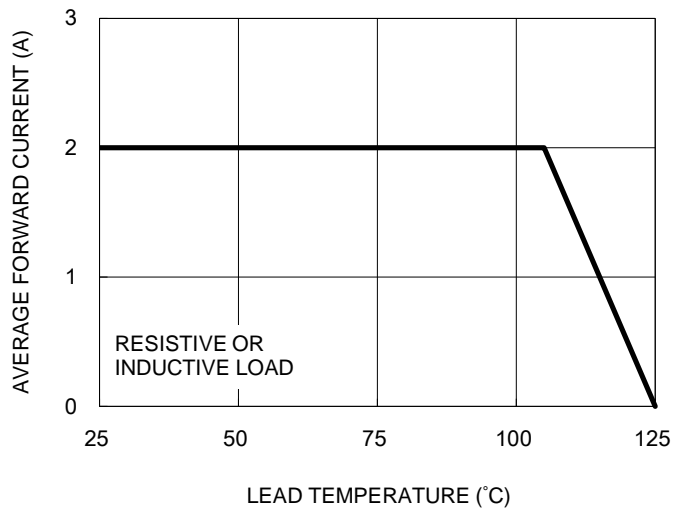
1. "x" defines voltage from 20V (SSL22) to 40V (SSL24)
- \*: Optional available

<b>EXAMPLE P/N</b>					
<b>EXAMPLE P/N</b>	<b>PART NO.</b>	<b>PART NO. SUFFIX</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>DESCRIPTION</b>
SSL24HR5G	SSL24	H	R5	G	AEC-Q101 qualified Green compound

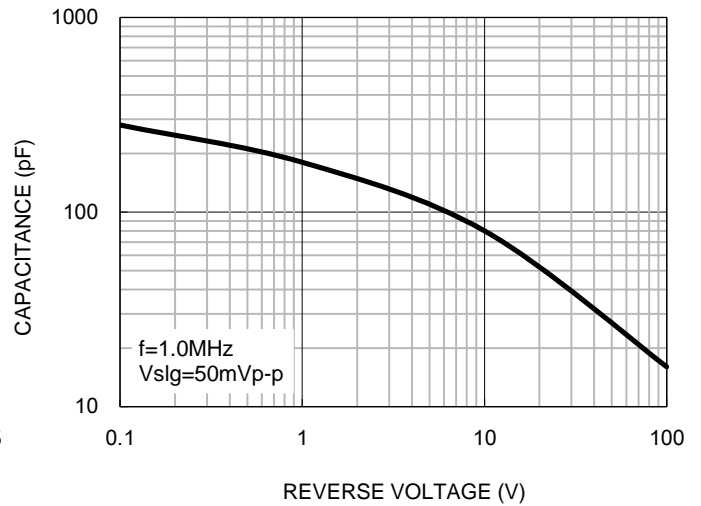
**CHARACTERISTICS CURVES**

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

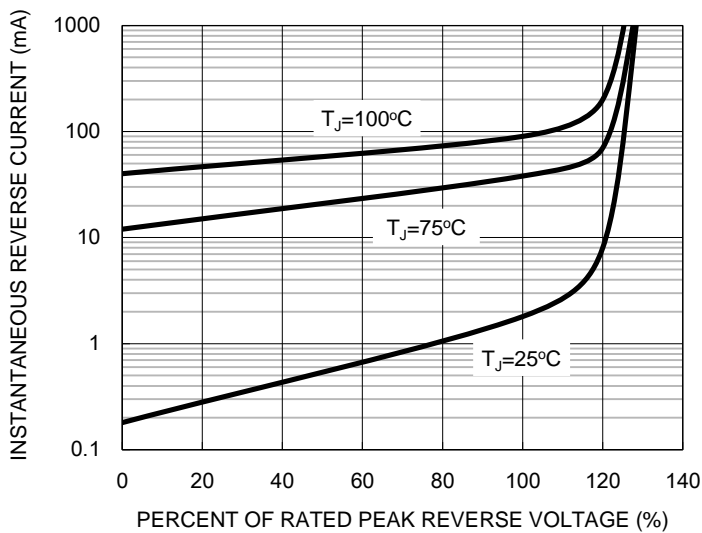
**Fig.1 Forward Current Derating Curve**



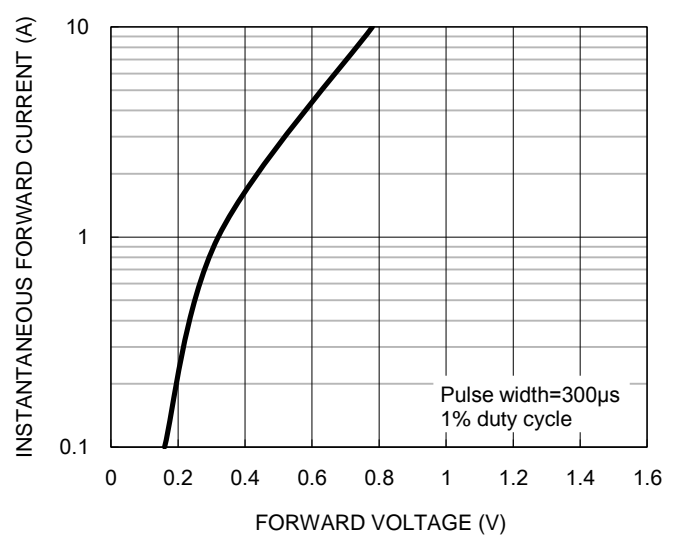
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



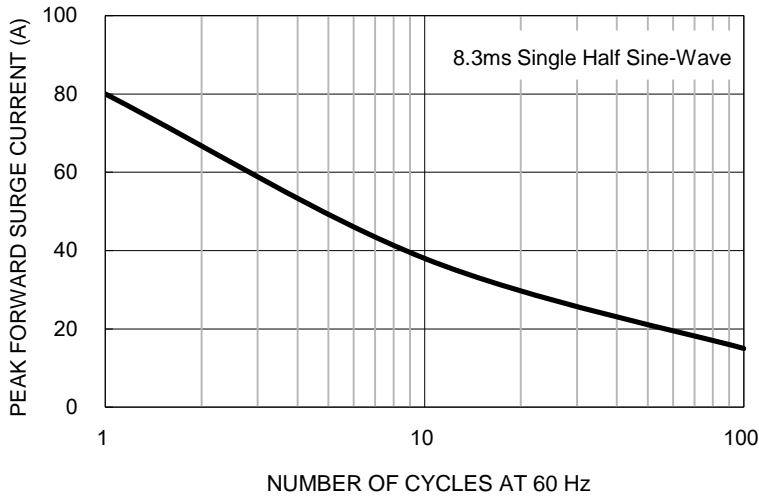
**Fig.4 Typical Forward Characteristics**



**CHARACTERISTICS CURVES**

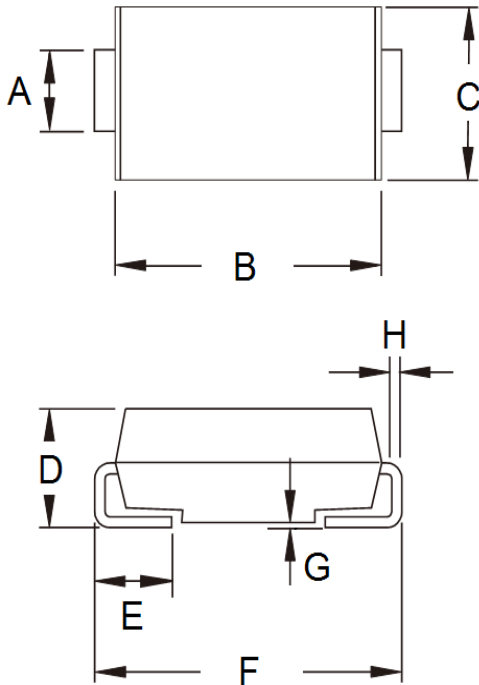
(T<sub>A</sub> = 25°C unless otherwise noted)

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



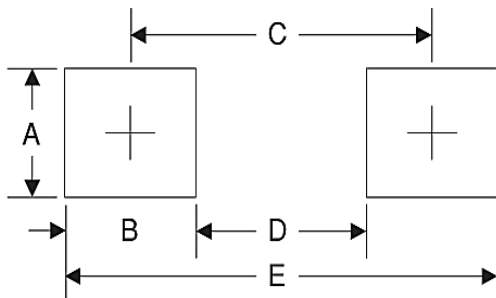
**PACKAGE OUTLINE DIMENSIONS**

DO-214AA (SMB)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.95	2.20	0.077	0.087
B	4.05	4.60	0.159	0.181
C	3.30	3.95	0.130	0.156
D	1.95	2.65	0.077	0.104
E	0.75	1.60	0.030	0.063
F	5.10	5.60	0.201	0.220
G	0.05	0.20	0.002	0.008
H	0.15	0.31	0.006	0.012

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	2.3	0.091
B	2.5	0.098
C	4.3	0.169
D	1.8	0.071
E	6.8	0.268

**MARKING DIAGRAM**



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