

## 2A, 20V - 150V 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
- Lighting application
- Converter

### 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 - 150	V
$I_{FSM}$	50	A
Package	DO-214AA (SMB)	
Configuration	Single Die	



**DO-214AA (SMB)**

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	SS22	SS23	SS24	SS25	SS26	SS29	SS210	SS215	UNIT
Marking code on the device		SS22	SS23	SS24	SS25	SS26	SS29	SS210	SS215	
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
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	90	100	150	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	$I_{FSM}$	50								A
Critical rate of rise of off-state voltage	dV/dt	10000								V/ $\mu\text{s}$
Junction temperature	$T_J$	- 55 to +125				- 55 to +150				$^\circ\text{C}$
Storage temperature	$T_{STG}$	- 55 to +150								$^\circ\text{C}$

**THERMAL PERFORMANCE**

PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	24	$^{\circ}C/W$
Junction-to-ambient thermal resistance	$R_{\theta JA}$	70	$^{\circ}C/W$

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT	
Forward voltage per diode <sup>(1)</sup>	SS22 SS23 SS24	$I_F = 2A, T_J = 25^{\circ}C$	$V_F$	-	0.50	V
	SS25 SS26			-	0.70	V
	SS29 SS210			-	0.85	V
	SS215			-	0.95	V
Forward voltage per diode <sup>(1)</sup>	SS22 SS23 SS24	$I_F = 2A, T_J = 100^{\circ}C$	$V_F$	-	0.40	V
	SS25 SS26			-	0.65	V
	SS29 SS210			-	0.70	V
	SS215			-	0.80	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	SS22 SS23 SS24 SS25 SS26	$T_J = 25^{\circ}C$	$I_R$	-	0.4	mA
	SS29 SS210 SS215			-	0.1	mA
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	SS22 SS23 SS24	$T_J = 100^{\circ}C$	$I_R$	-	10	mA
	SS25 SS26			-	5	mA
	SS29 SS210 SS215			-	-	mA

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	SS22 SS23 SS24	$T_J = 125^\circ\text{C}$	$I_R$	-	-	mA
	SS25 SS26			-	-	mA
	SS29 SS210 SS215			-	5	mA

**Notes:**

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

<b>ORDERING INFORMATION</b>					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX(*)	PACKAGE	PACKING
SS2xx (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:**

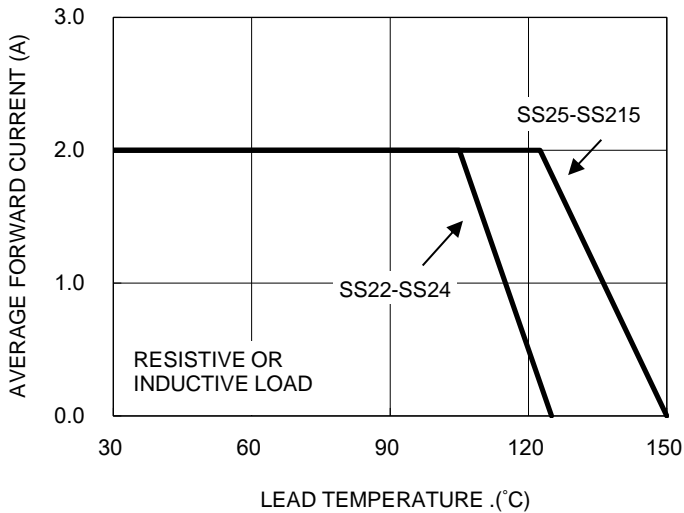
1. "x" defines voltage from 20V (SS22) to 150V (SS215)
- \*: Optional available

<b>EXAMPLE P/N</b>					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
SS22HR5G	SS22	H	R5	G	AEC-Q101 qualified Green compound

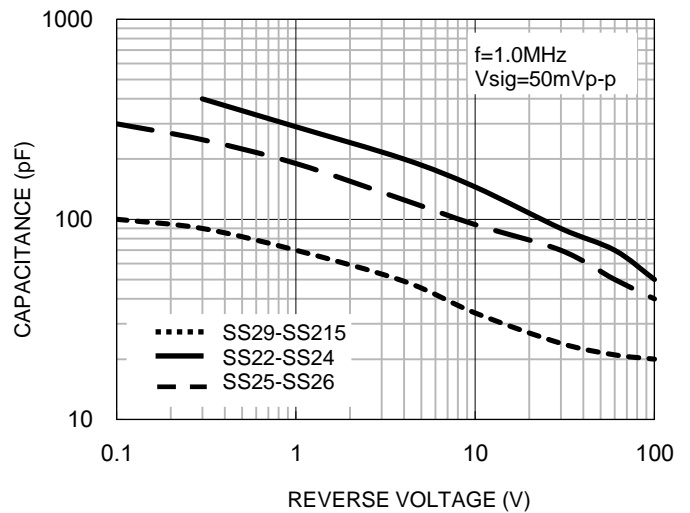
**CHARACTERISTICS CURVES**

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

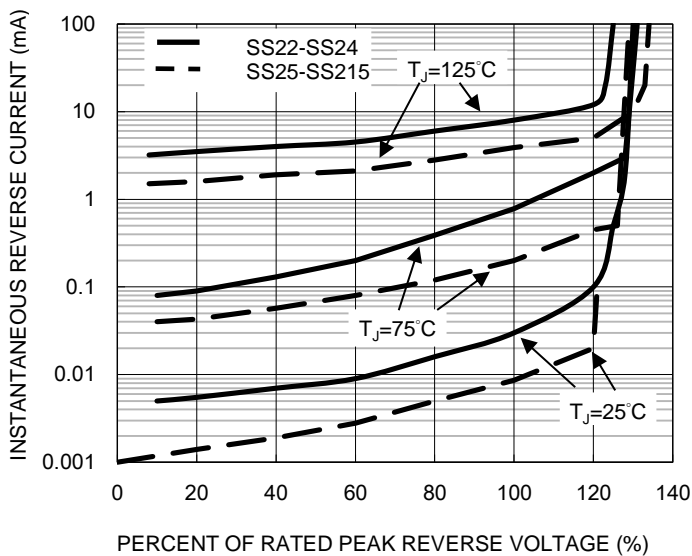
**Fig.1 Forward Current Derating Curve**



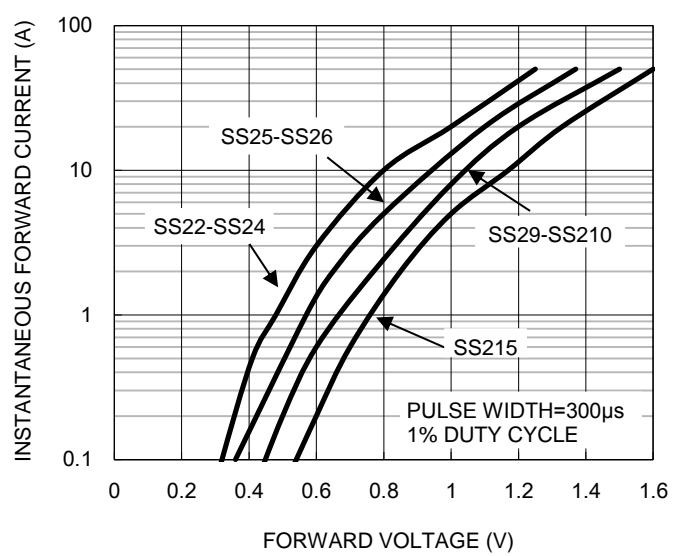
**Fig.2 Typical Junction Capacitance**



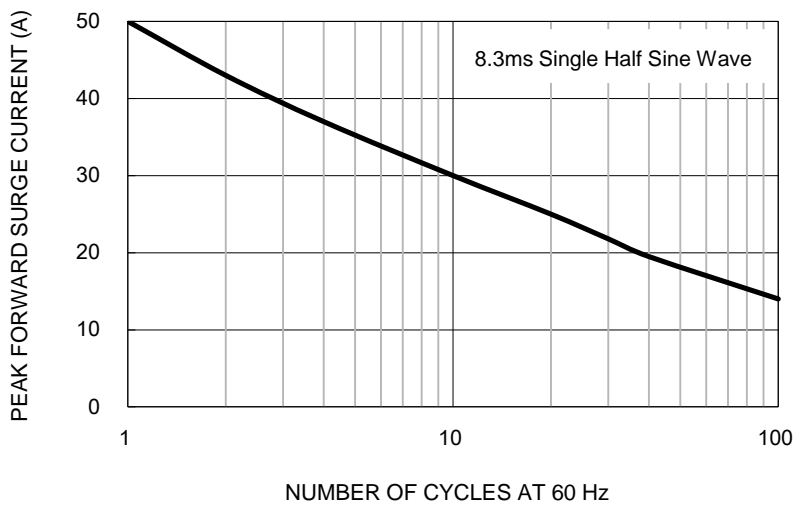
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



**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

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