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

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	

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- Converter

Pb-Free RoHS COMPLIANT

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)

DO-214AA (SMB)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°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/μs
Junction temperature	T_J	- 55 to +125			- 55 to +150					°C
Storage temperature	T_{STG}	- 55 to +150								°C

THERMAL PERFORMANCE

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

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode (1)	SS22 SS23 SS24	I_F = 2A,T_J = 25°C	V_F	-	0.50	V
	SS25 SS26			-	0.70	V
	SS29 SS210			-	0.85	V
	SS215			-	0.95	V
Forward voltage per diode (1)	SS22 SS23 SS24	I_F = 2A,T_J = 100°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 (2)	SS22 SS23 SS24 SS25 SS26	T_J = 25°C	I_R	-	0.4	mA
	SS29 SS210 SS215			-	0.1	mA
Reverse current @ rated V_R per diode (2)	SS22 SS23 SS24	T_J = 100°C	I_R	-	10	mA
	SS25 SS26			-	5	mA
	SS29 SS210 SS215			-	-	mA

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)						
PARAMETER		**CONDITIONS**	**SYMBOL**	**TYP**	**MAX**	**UNIT**
Reverse current @ rated V_R per diode (2)	SS22 SS23 SS24	T_J = 125°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

ORDERING INFORMATION					
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

EXAMPLE P/N					
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°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

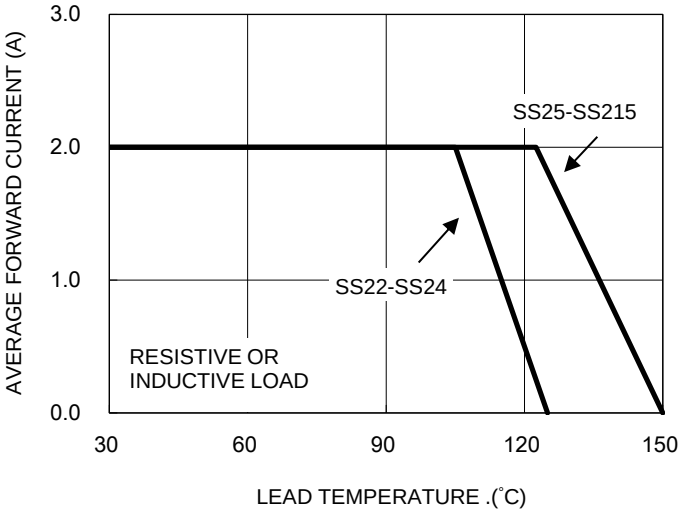


Fig.2 Typical Junction Capacitance

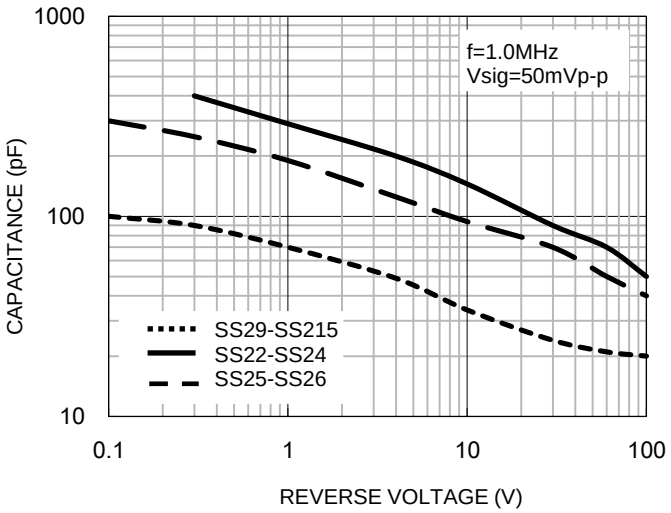


Fig.3 Typical Reverse Characteristics

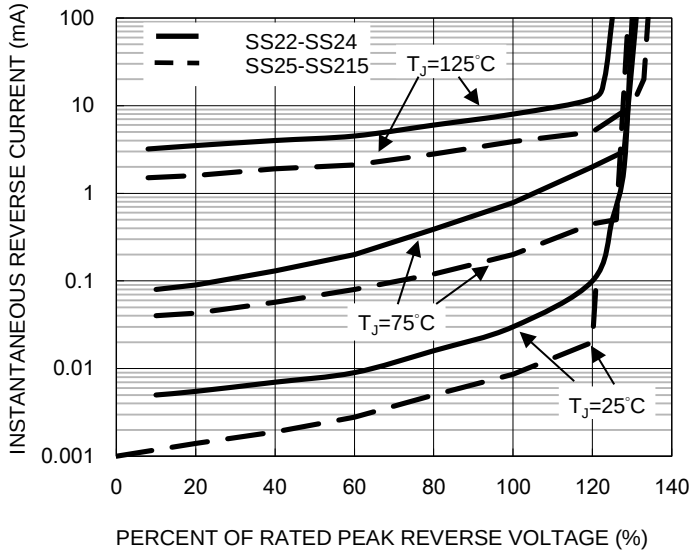


Fig.4 Typical Forward Characteristics

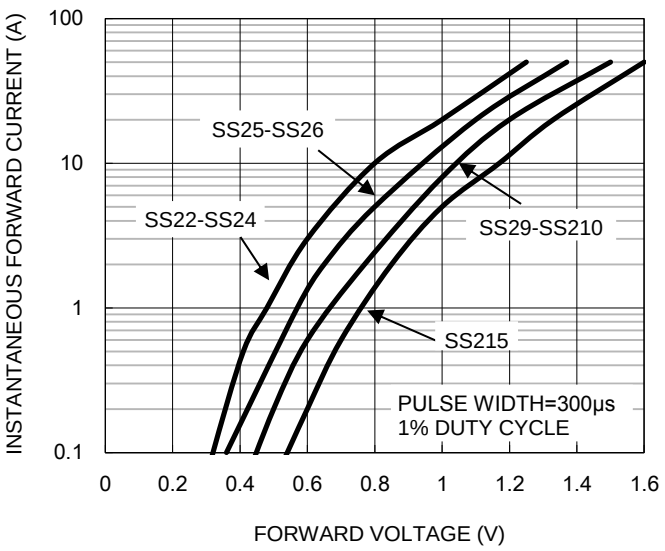
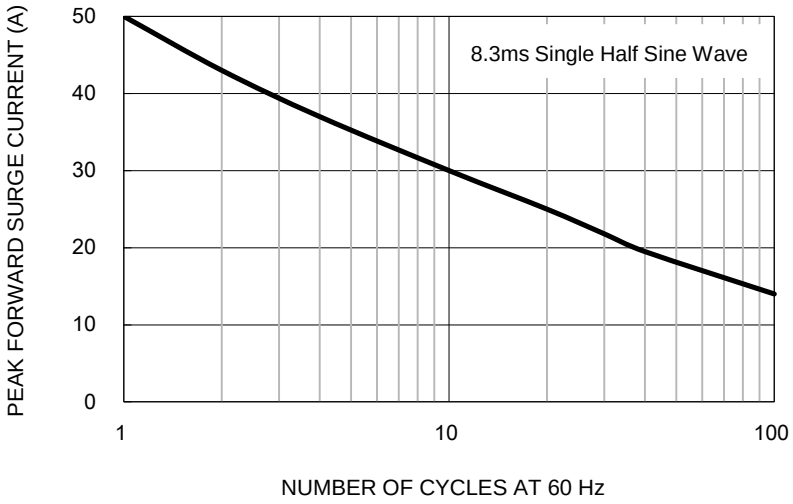
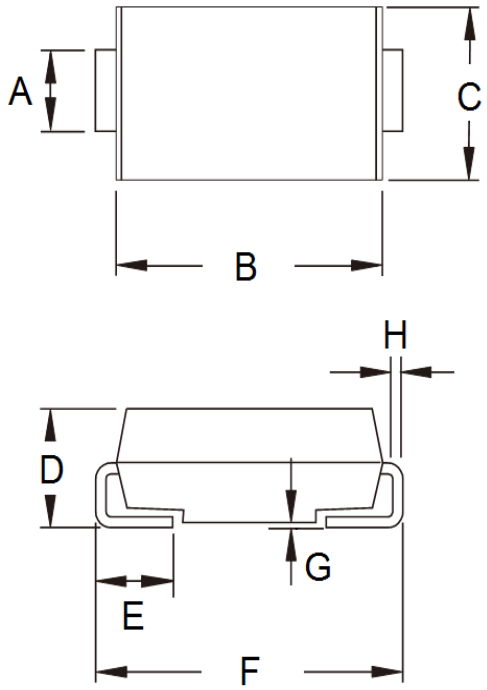


Fig.5 Maximum Non-repetitive Forward Surge Current



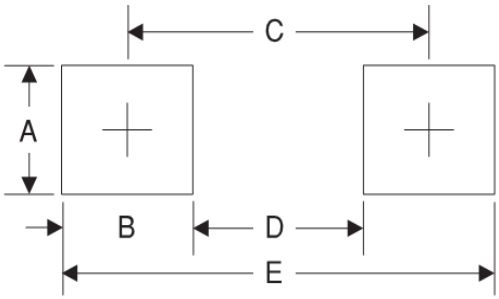
PACKAGE OUTLINE DIMENSIONS

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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