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

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guard ring for over-voltage 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

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

MECHANICAL DATA

- Case: DO-214AA (SMB)
- 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: 0.093g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	2	A
V_{RRM}	20 - 150	V
I_{FSM}	50	A
$T_{J\ MAX}$	125, 150	°C
Package	DO-214AA (SMB)	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

DO-214AA (SMB)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	SS 22	SS 23	SS 24	SS 25	SS 26	SS 29	SS 210	SS 215	UNIT
Marking code on the device		SS 22	SS 23	SS 24	SS 25	SS 26	SS 29	SS 210	SS 215	
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
Surge peak forward 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/μs
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	$R_{\Theta JL}$	24	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	70	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[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[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[2]	SS22 SS23 SS24 SS25 SS26	T_J = 25°C	I_R	-	400	μA
	SS29 SS210 SS215			-	100	μA
Reverse current @ rated V_R[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 (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 = 0.3ms
2. Pulse test with PW = 30ms

ORDERING INFORMATION		
ORDERING CODE(1)	**PACKAGE**	**PACKING**
SS2x	DO-214AA (SMB)	3,000 / Tape & Reel

Notes:

1. "x" defines voltage from 20V(SS22) to 150V(SS215)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

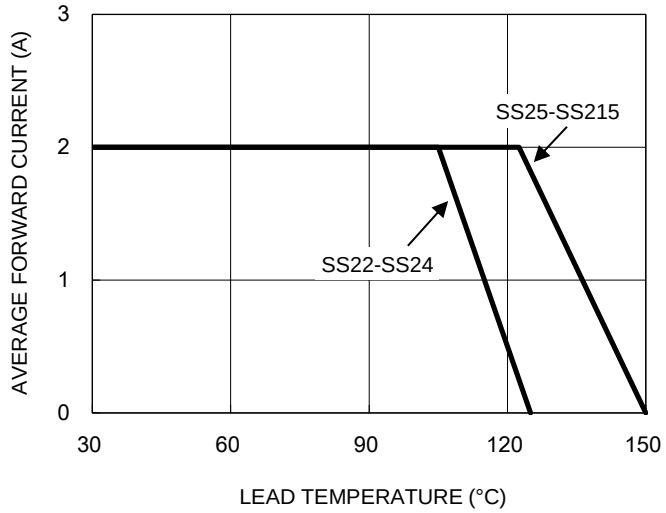


Fig.2 Typical Junction Capacitance

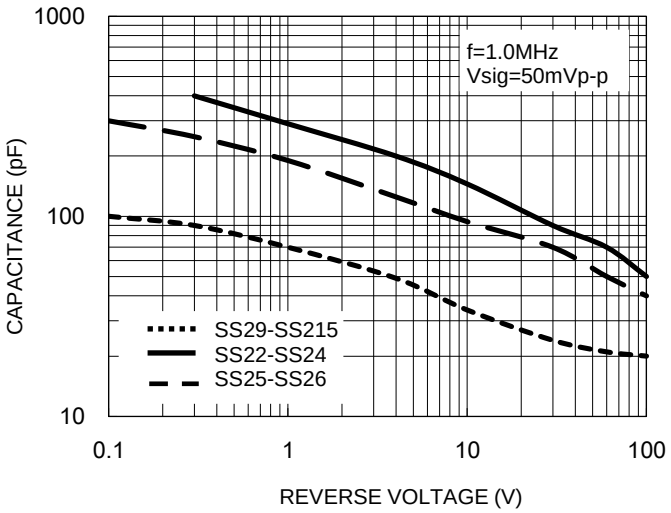


Fig.3 Typical Reverse Characteristics

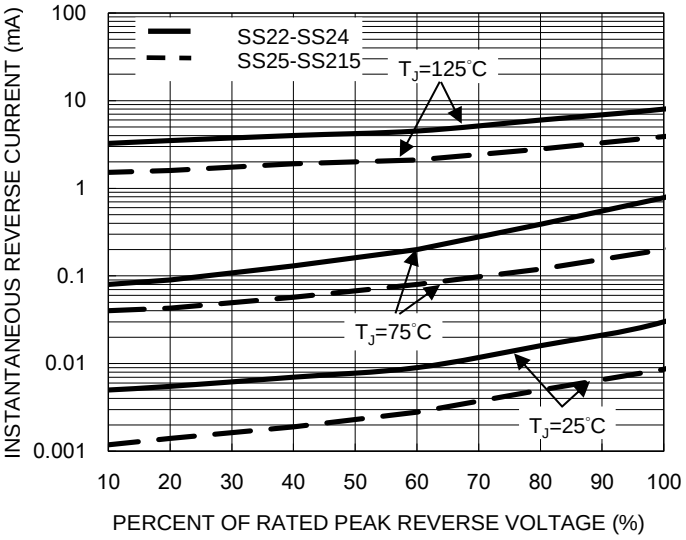
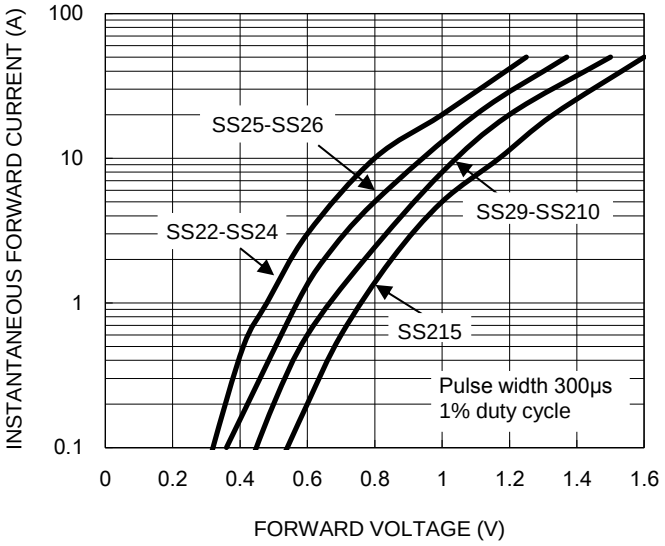


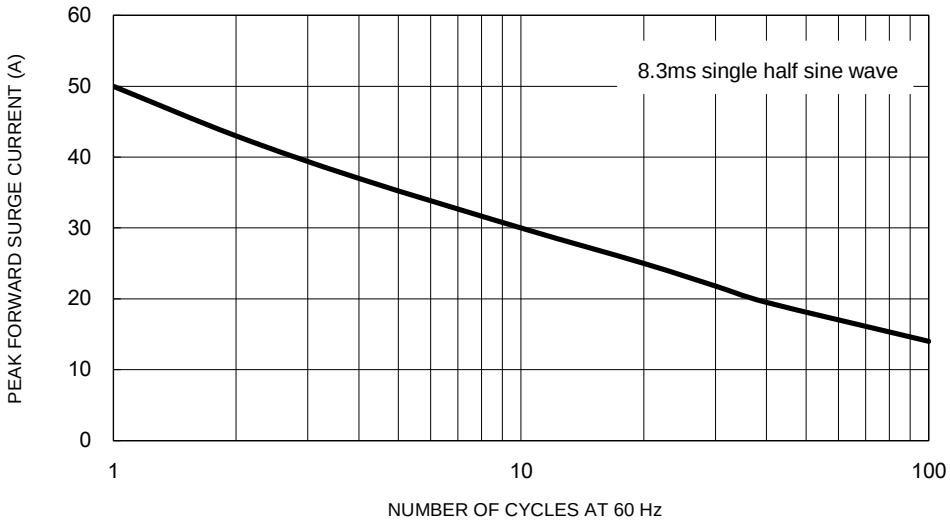
Fig.4 Typical Forward Characteristics



CHARACTERISTICS CURVES

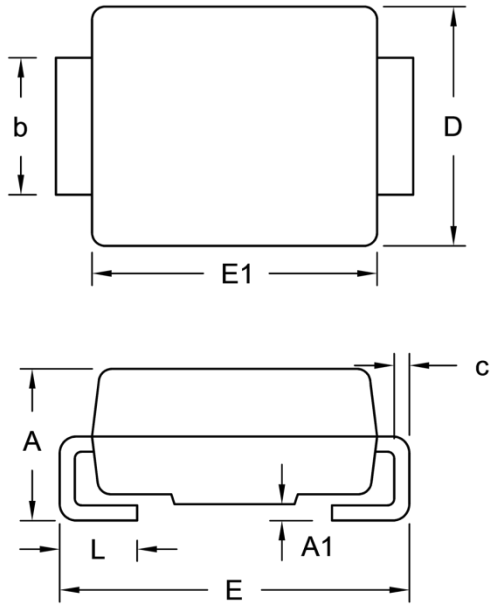
(T_A = 25°C unless otherwise noted)

Fig.5 Maximum Non-Repetitive Forward Surge Current



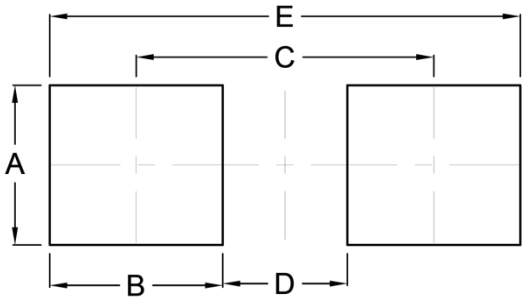
PACKAGE OUTLINE DIMENSIONS

DO-214AA (SMB)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.95	2.65	0.077	0.104
A1	0.05	0.20	0.002	0.008
b	1.95	2.20	0.077	0.087
c	0.15	0.31	0.006	0.012
D	3.30	3.95	0.130	0.156
E	5.10	5.60	0.201	0.220
E1	4.05	4.60	0.159	0.181
L	0.75	1.60	0.030	0.063

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	2.30	0.091
B	2.50	0.098
C	4.30	0.169
D	1.80	0.071
E	6.80	0.268

MARKING DIAGRAM

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

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