

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	



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	$I_F = 2A, T_J = 25^\circ C$	V_F	-	0.50	V
	SS23			-	0.70	V
	SS24			-	0.85	V
	SS25			-	0.95	V
	SS26			-	0.95	V
	SS29			-	0.95	V
Forward voltage ⁽¹⁾	SS22	$I_F = 2A, T_J = 100^\circ C$	V_F	-	0.40	V
	SS23			-	0.65	V
	SS24			-	0.70	V
	SS25			-	0.80	V
	SS26			-	0.80	V
	SS29			-	0.80	V
Reverse current @ rated V_R ⁽²⁾	SS22	$T_J = 25^\circ C$	I_R	-	400	μA
	SS23			-	100	μA
	SS24			-	100	μA
	SS25			-	100	μA
	SS26			-	100	μA
	SS29			-	100	μA
Reverse current @ rated V_R ⁽²⁾	SS22	$T_J = 100^\circ C$	I_R	-	10	mA
	SS23			-	5	mA
	SS24			-	5	mA
	SS25			-	5	mA
	SS26			-	5	mA
	SS29			-	5	mA

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

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

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

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

Fig.1 Forward Current Derating Curve

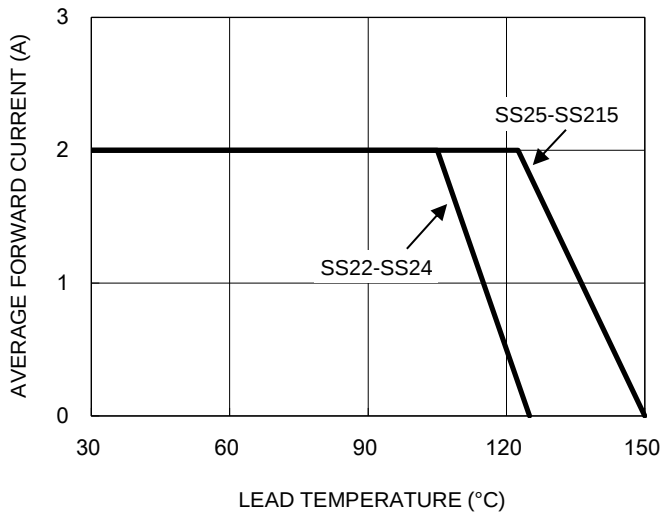


Fig.2 Typical Junction Capacitance

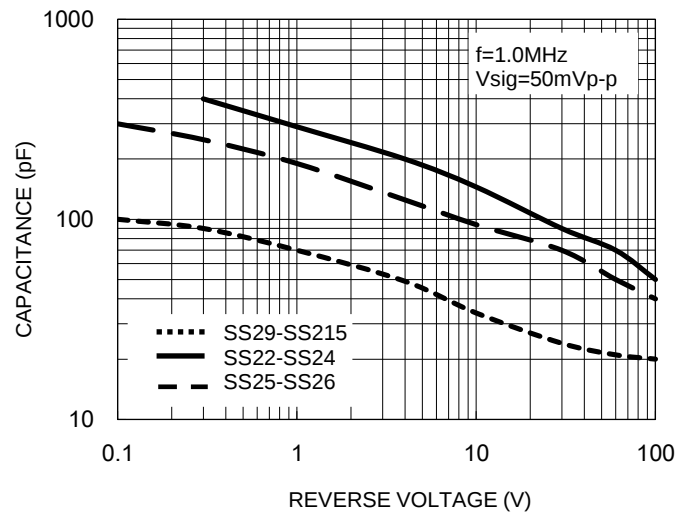


Fig.3 Typical Reverse Characteristics

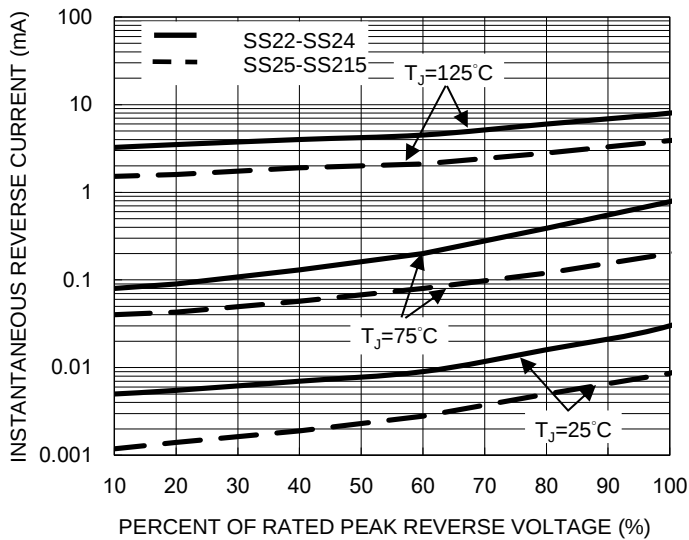
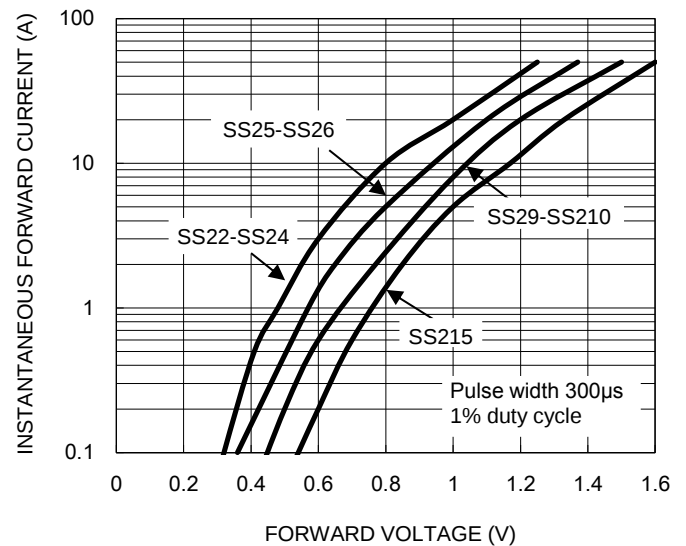


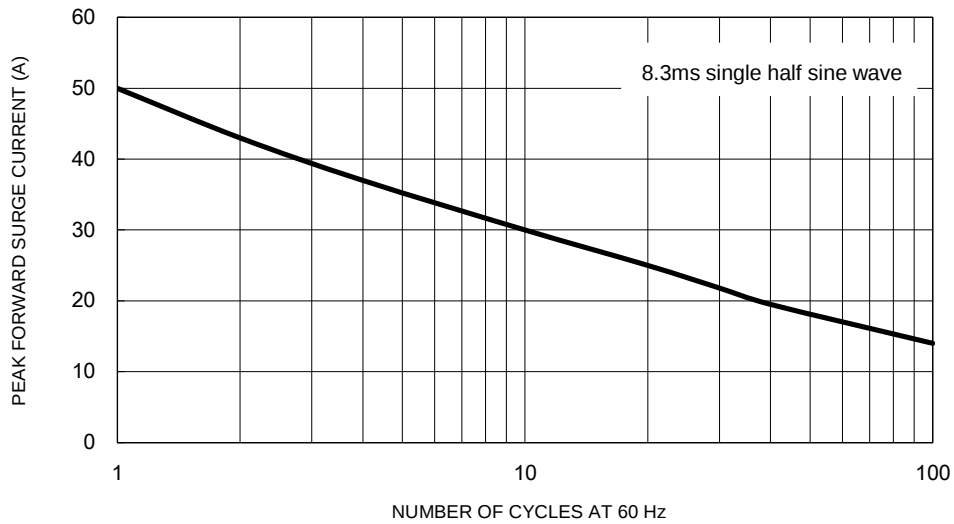
Fig.4 Typical Forward Characteristics



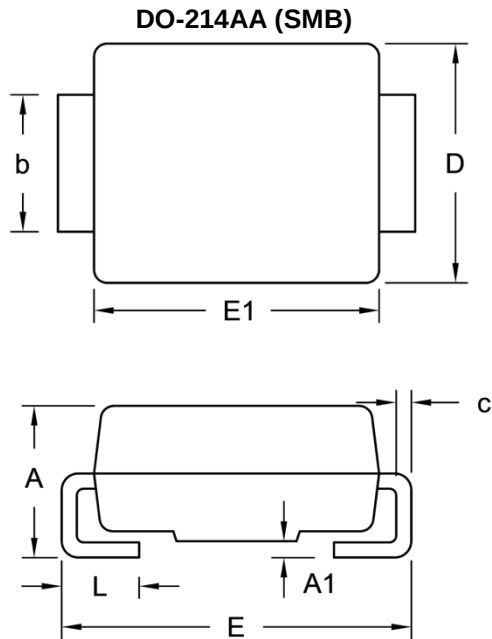
CHARACTERISTICS CURVES

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

Fig.5 Maximum Non-Repetitive Forward Surge Current

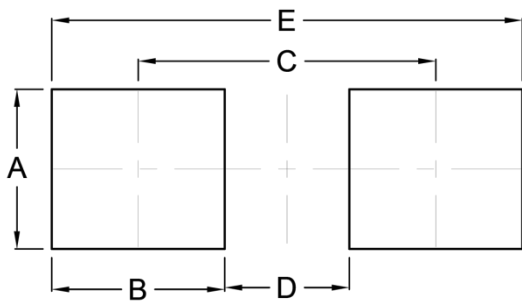


PACKAGE OUTLINE DIMENSIONS



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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