



2A, 50V - 1400V Surface Mount Rectifier

FEATURES

- AEC-Q101 qualified
- Glass passivated chip junction
- Ideal for automated placement
- Low forward voltage drop
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- DC to DC converter
- Automotive application
- Car lighting
- Snubber
- · Freewheeling application

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: 0.090g (approximately)

KEY PARAMETERS				
PARAMETER	VALUE	UNIT		
I _F	2	Α		
V_{RRM}	50 - 1400	V		
I _{FSM}	50	Α		
T _{J MAX}	150	°C		
Package	DO-214AA (SMB)			
Configuration	Single die			





HALOGEN



DO-214AA (SMB)



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted)											
PARAMETER	SYMBOL	S2A H	S2B H	S2D H	S2G H	S2J H	S2K H	S2M H	S2Q H	S2V H	UNIT
Marking code on the device		S2A	S2B	S2D	S2G	S2J	S2K			S2V	
Repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	1200	1400	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	280	420	560	700	840	980	V
Forward current	I _F	2			Α						
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	50				Α					
Junction temperature	T _J	Γ _J - 55 to +150			°C						
Storage temperature	T _{STG}	- 55 to +150			°C						



S2AH – S2VH Taiwan Semiconductor

THERMAL PERFORMANCE					
PARAMETER	SYMBOL	TYP	UNIT		
Junction-to-lead thermal resistance	R _{⊖JL}	16	°C/W		
Junction-to-ambient thermal resistance	R _{OJA}	53	°C/W		

ELECTRICAL SPECIFICATIONS (TA = 25°C unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	I _F = 2A, T _J = 25°C	V _F	-	1.15	V
Reverse current @ rated V _R ⁽²⁾	T _J = 25°C	I _R	-	1	μΑ
	T _J = 125°C		-	125	μΑ
Junction capacitance	$1MHz, V_R = 4.0V$	CJ	30	-	pF
Reverse recovery time	$I_F = 0.5A, I_R = 1.0A$ $I_{rr} = 0.25A$	t _{rr}	1500	-	ns

Notes:

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

ORDERING INFORMATION				
ORDERING CODE ⁽¹⁾	PACKAGE	PACKING		
S2xH	DO-214AA (SMB)	3,000 / Tape & Reel		

Notes:

1. "x" defines voltage from 50V(S2AH) to 1400V(S2VH)



CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

2.5 (Y) LINEWARD 2 1.5 0.5 0 25 50 75 100 125 150 LEAD TEMPERATURE (°C)

Fig.2 Typical Junction Capacitance

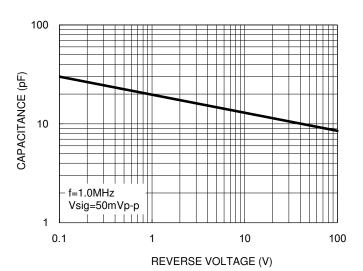


Fig.3 Typical Reverse Characteristics

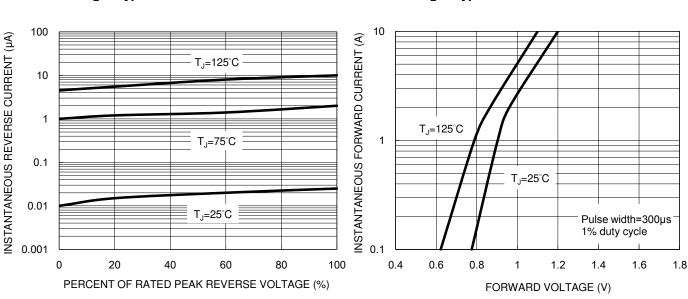


Fig.4 Typical Forward Characteristics



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.5 Maximum Non-repetitive Forward Surge Current

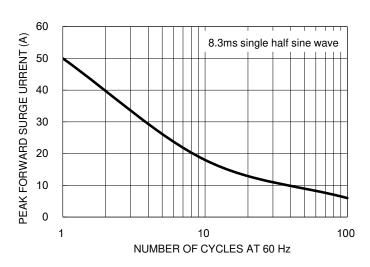
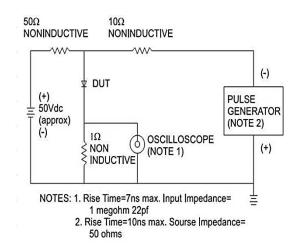
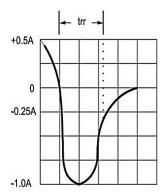


Fig.6 Reverse Recovery Time Characteristic and Test Circuit Diagram



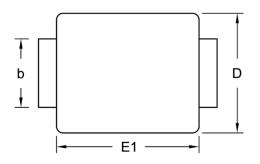


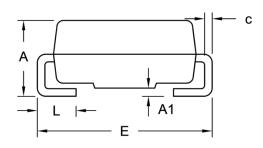
4



PACKAGE OUTLINE DIMENSIONS

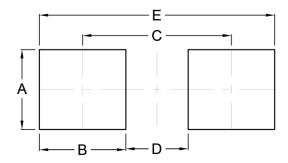
DO-214AA (SMB)





DIM.	Unit	(mm)	Unit (inch)		
DIIVI.	Min.	Max.	Min.	Max.	
Α	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	
С	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)
Α	2.30	0.091
В	2.50	0.098
С	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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