

1.5A, 50V - 1000V Fast Recovery Surface Mount Rectifier

FEATURES

- AEC-Q101 qualified
- Glass passivated chip junction
- Ideal for automated placement
- Fast switching for high efficiency
- 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
- General purpose

MECHANICAL DATA

- Case: DO-214AC (SMA)
- 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: 0.060g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	1.5	A
V_{RRM}	50 - 1000	V
I_{FSM}	50	A
T_{JMAX}	150	°C
Package	DO-214AC (SMA)	
Configuration	Single die	



DO-214AC (SMA)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	RS 2AAH	RS 2BAH	RS 2DAH	RS 2GAH	RS 2JAH	RS 2KAH	RS 2MAH	UNIT	
Marking code on the device		RS 2AA	RS 2BA	RS 2DA	RS 2GA	RS 2JA	RS 2KA	RS 2MA		
Repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V	
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	280	420	560	700	V	
Forward current	I_F	1.5								A
Peak forward surge current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	50								A
Junction temperature	T_J	- 55 to +150								°C
Storage temperature	T_{STG}	- 55 to +150								°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	18	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	55	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾		$I_F = 1.5\text{A}, T_J = 25^\circ\text{C}$	V_F	-	1.3	V
Reverse current @ rated V_R ⁽²⁾		$T_J = 25^\circ\text{C}$	I_R	-	5	μA
		$T_J = 125^\circ\text{C}$		-	200	μA
Junction capacitance		1MHz, $V_R = 4.0\text{V}$	C_J	50	-	pF
Reverse recovery time	RS2AAH RS2BAH RS2DAH RS2GAH	$I_F = 0.5\text{A}, I_R = 1.0\text{A},$ $I_{rr} = 0.25\text{A}$	t_{rr}	-	150	ns
	RS2JAH			-	250	ns
	RS2KAH RS2MAH			-	500	ns

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
RS2xAH	DO-214AC (SMA)	7,500 / Tape & Reel

Notes:

1. "x" defines voltage from 50V(RS2AAH) to 1000V(RS2MAH)

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

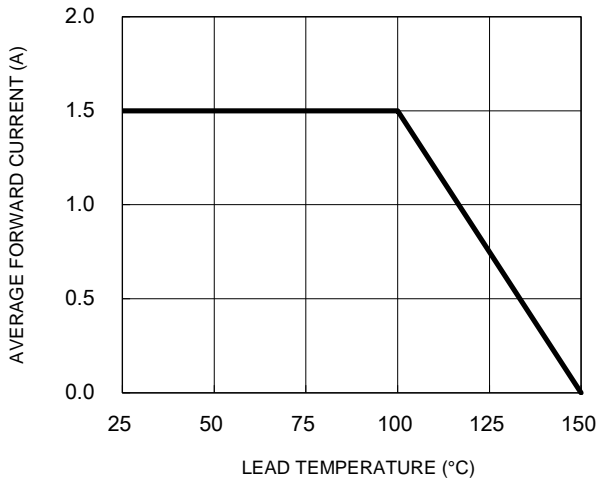


Fig.2 Typical Junction Capacitance

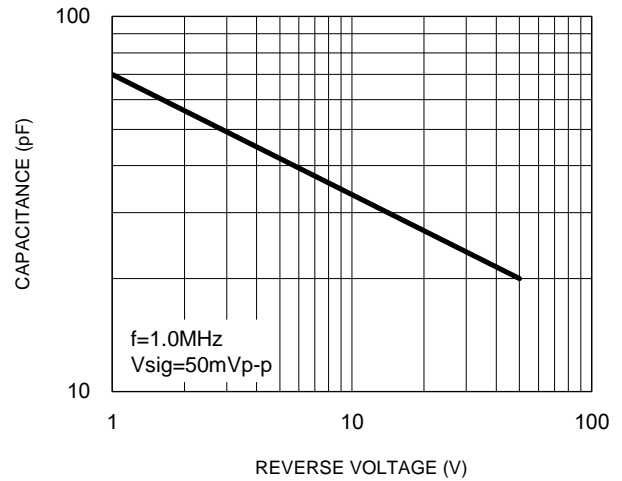


Fig.3 Typical Reverse Characteristics

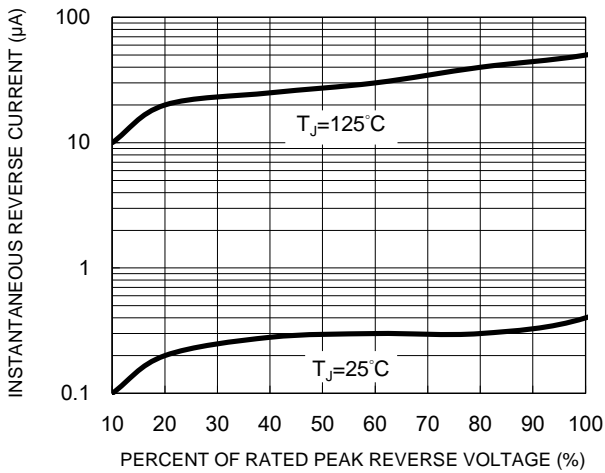


Fig.4 Typical Forward Characteristics

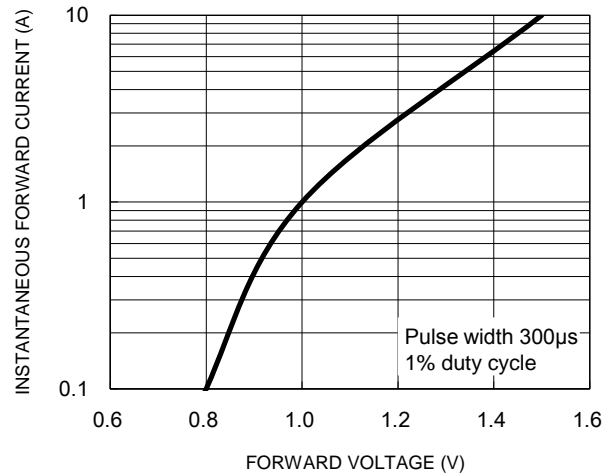
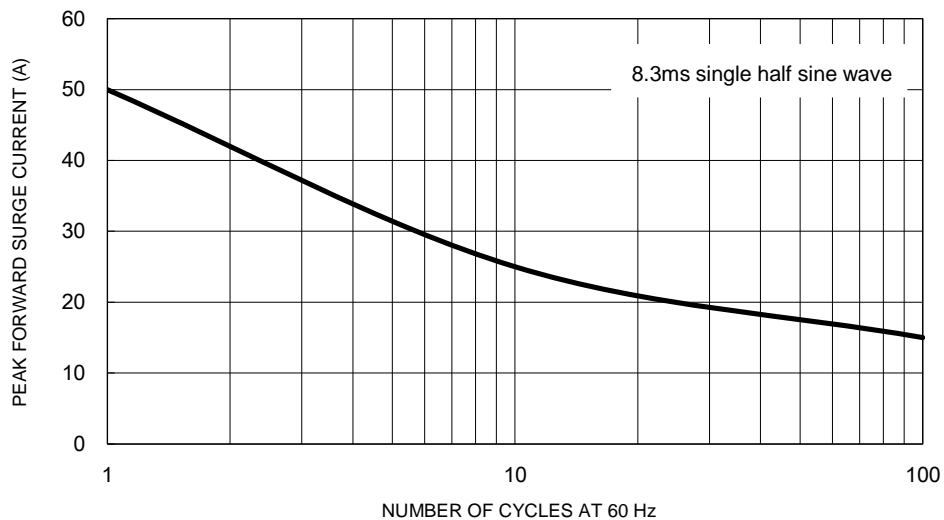


Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

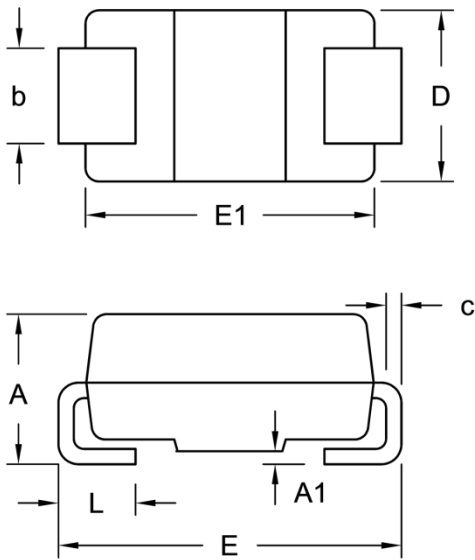
(T_A = 25°C unless otherwise noted)

Fig.6 Reverse Recovery Time Characteristic And Test Circuit Diagram



PACKAGE OUTLINE DIMENSIONS

DO-214AC (SMA)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.99	2.50	0.078	0.098
A1	0.10	0.20	0.004	0.008
b	1.27	1.58	0.050	0.062
c	0.15	0.31	0.006	0.012
D	2.29	2.83	0.090	0.111
E	4.95	5.33	0.195	0.210
E1	4.06	4.60	0.160	0.181
L	0.90	1.41	0.035	0.056

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.93	0.155
D	2.41	0.095
E	5.45	0.215

MARKING DIAGRAM



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

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