Surface Mount Fast Recovery Rectifiers

FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Fast switching for high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

DO-214AC (SMA)

Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

Case: DO-214AC (SMA)

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - Green compound (halogen-free)

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

with prefix "H" on packing code meet JESD 201 class 2 whisker test

Polarity: Indicated by cathode band

Weight: 0.06 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)									
PARAMETER	SYMBOL	RS 2AA	RS 2BA	RS 2DA	RS 2GA	RS 2JA	RS 2KA	RS 2MA	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	1.5							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	50							A
Maximum instantaneous forward voltage (Note 1) @ 1.5 A	V_F	1.3							V
Maximum reverse current @ rated VR T_J=25 ℃ T_J=125 ℃	I_R	5 200							μA
Maximum reverse recovery time (Note 2)	Trr	150				250	500		ns
Typical junction capacitance (Note 3)	Cj	50							pF
Typical thermal resistance	$R_{\theta JL}$ $R_{\theta JA}$	18 55							^{O}C/W
Operating junction temperature range	T_J	- 55 to +150							^{O}C
Storage temperature range	T_{STG}	- 55 to +150							^{O}C

Note 1: Pulse test with PW=300μs, 1% duty cycle

Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
RS2xA (Note 1)	Prefix "H"	R3	Suffix "G"	SMA	1,800 / 7" Plastic reel
		R2		SMA	7,500 / 13" Paper reel
		M2		SMA	7,500 / 13" Plastic reel
		F3		Folded SMA	1,800 / 7" Plastic reel
		F2		Folded SMA	7,500 / 13" Paper reel
		F4		Folded SMA	7,500 / 13" Plastic reel
	N/A	E3		Clip SMA	1,800 / 7" Plastic reel
		E2		Clip SMA	7,500 / 13" Plastic reel

Note 1: "x" defines voltage from 50V (RS2AA) to 1000V (RS2MA)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
RS2MA R3	RS2MA		R3		
RS2MA R3G	RS2MA		R3	G	Green compound
RS2MAHR3	RS2MA	H	R3		AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

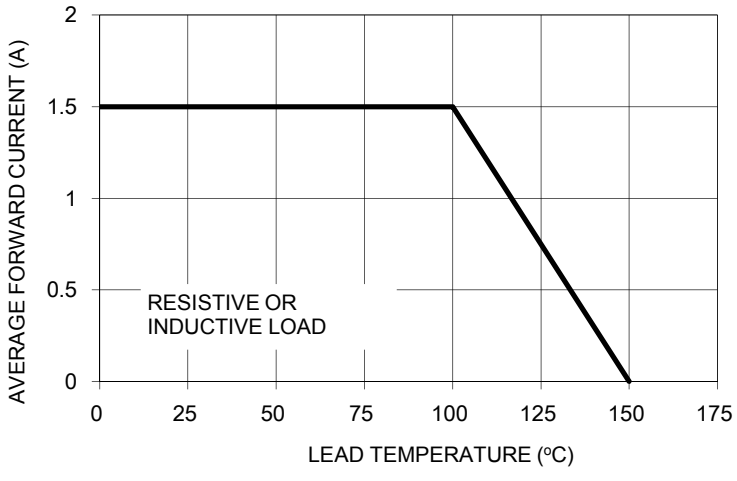


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

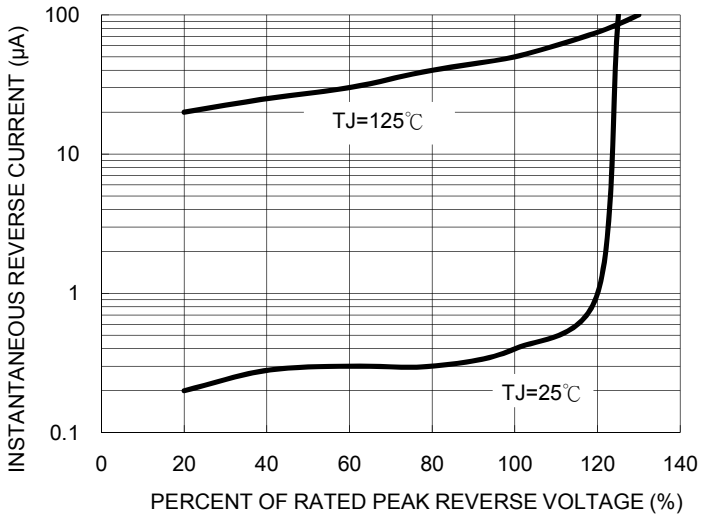


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

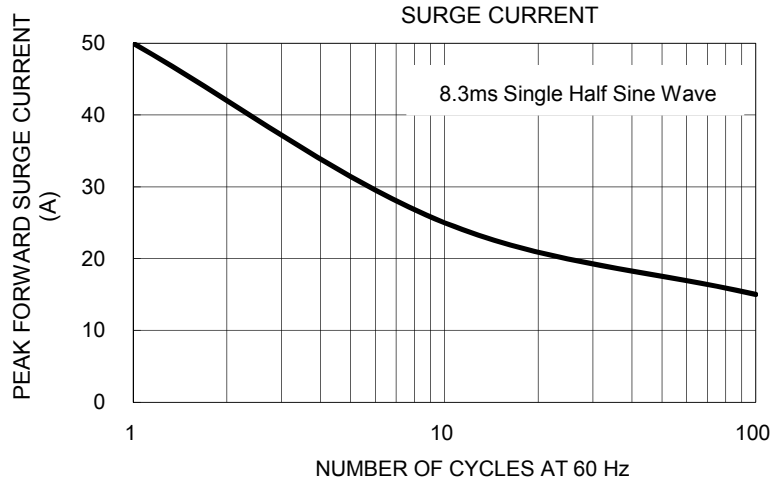


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

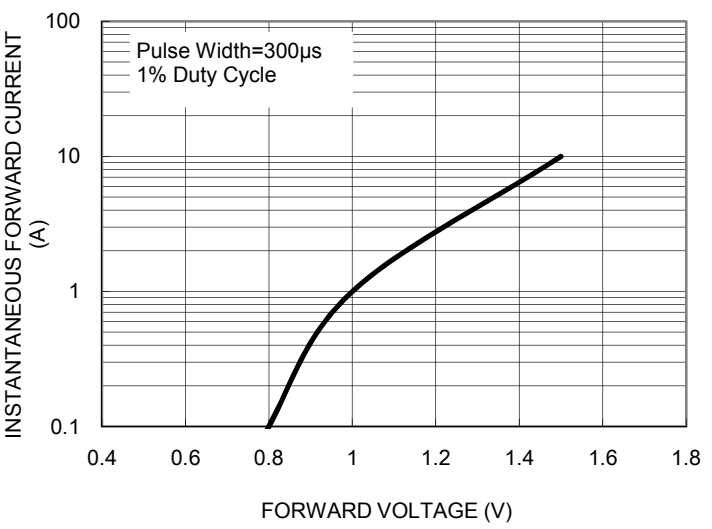


FIG. 5 TYPICAL JUNCTION CAPACITANCE

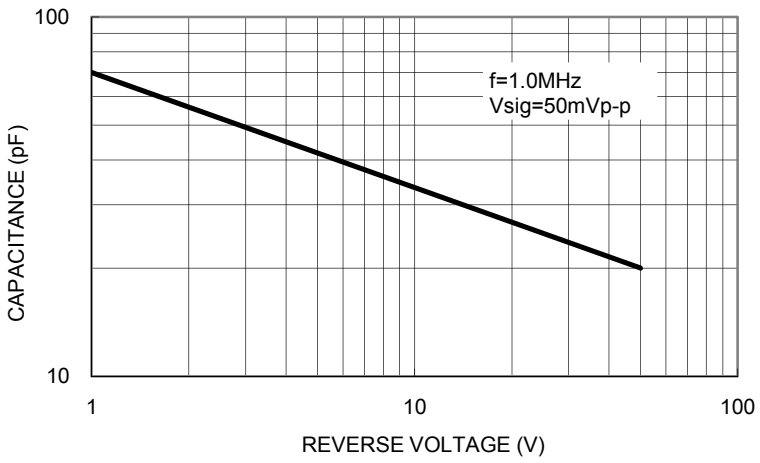
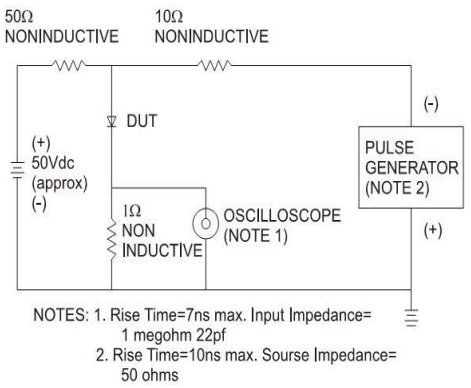
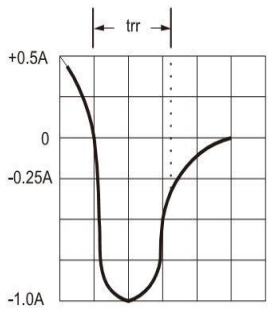
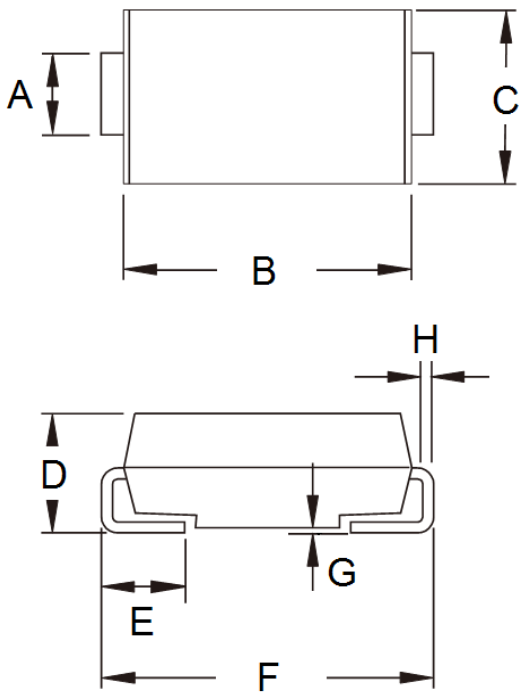


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



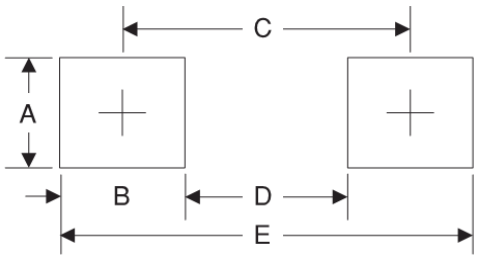


PACKAGE OUTLINE DIMENSIONS



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

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 = Specific Device Code
G = Green Compound
YW = Date Code
F = Factory Code

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RS2AA RS2BA RS2DA RS2GA RS2JA RS2KA RS2MA RS2MA R3G RS2GA R2 RS2MA R2 RS2KA R3G RS2GAHR2G RS2MAHF3 RS2KA F2 RS2KA R2G RS2KAHF3G RS2JA F2 RS2JAHF2G RS2JA R2G RS2MAHF2G RS2KAHF2G RS2MAHR2G RS2MAHR3G RS2GAHF2 RS2GAHR3G RS2JAHF3 RS2GA R2G RS2DA R3G RS2GA R3 RS2JAHF2 RS2MA R2G RS2DAHR2 RS2JA R3 RS2DA R3 RS2GAHR3 RS2MAHR2 RS2DAHR3G RS2DAHR3 RS2KA F2G RS2MA F3G RS2JA F2G RS2JAHR2G RS2JAHR3G RS2KAHF3 RS2GAHF2G RS2MA F2G RS2GA R3G RS2GA F2 RS2KAHR3G RS2MAHF3G RS2JA R3G RS2JAHR2 RS2KA F3G RS2KAHR2 RS2KA R2 RS2MAHR3 RS2DAHF3 RS2GA F3G RS2MA F2 RS2GAHR2 RS2MAHF2 RS2DAHR2G RS2JAHF3G RS2GA F2G RS2DAHF2G RS2JAHR3 RS2DAHF3G RS2KAHR3 RS2KA R3 RS2DAHF2 RS2MA R3 RS2KAHR2G RS2KAHF2 RS2JA F3G RS2GAHF3G RS2JA R2 RS2GAHF3 RS2AAHF2G RS2BAHF3G RS2BAHR2G RS2DA R2G RS2AAHF3 RS2BAHR3 RS2AA F3G RS2DA F2G RS2BA R3 RS2AA R3 RS2BA F2G RS2AAHF2 RS2AA F2 RS2BAHR3G RS2BA F3G RS2BAHF3 RS2BAHR2 RS2AAHF3G RS2AAHR2 RS2BA R3G RS2AAHR2G RS2AA F2G RS2BA R2G