

Taiwan Semiconductor

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

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)







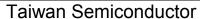
DO-214AC	(SMA)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)									
PARAMETER	SYMBOL	RS	RS	RS	RS	RS	RS	RS	UNIT
FARAIVETER	STWIDGE	1A	1B	1D	1G	1J	1K	1M	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 A			Α				
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30 A				Α			
Maximum instantaneous forward voltage (Note 1) @ 1 A	V_{F}	1.3			V				
Maximum reverse current @ rated VR T_J =25 $^{\circ}$ C T_J =125 $^{\circ}$ C	I _R	5 50			μΑ				
Maximum reverse recovery time (Note 2)	Trr	150 250 500		00	ns				
Typical junction capacitance (Note 3)	Cj	10			pF				
Typical thermal resistance	$R_{ hetaJC}$	32 105		°C/W					
Operating junction temperature range	T_J	- 55 to +150 °c			οС				
Storage temperature range	T _{STG}	- 55 to +150 °C			оС				

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.





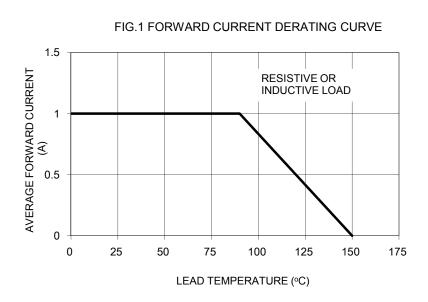
ORDERING INFORMATION					
PART NO.	AEC-Q101	PACKING CODE	GREEN COMPOUND	PACKAGE	PACKING
	QUALIFIED		CODE		
		R3		SMA	1,800 / 7" Plastic reel
		R2		SMA	7,500 / 13" Paper reel
	Suffix "G"		SMA	7,500 / 13" Plastic reel	
RS1x		F3	Suffix "G"	Folded SMA	1,800 / 7" Plastic reel
(Note 1)		F2		Folded SMA	7,500 / 13" Paper reel
		F4		Folded SMA	7,500 / 13" Plastic reel
	N/A E3	E3		Clip SMA	1,800 / 7" Plastic reel
		E2		Clip SMA	7,500 / 13" Plastic reel

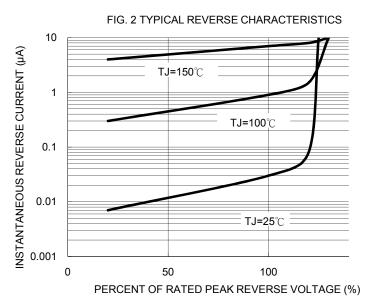
Note 1: "x" defines voltage from 50V (RS1A) to 1000V (RS1M)

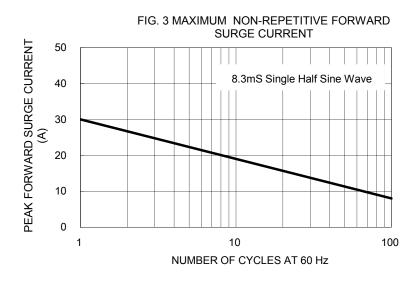
EXAMPLE						
PREFERRED P/N	PREFERRED P/N PART NO. AEC-Q101 PACKING CO		PACKING CODE	GREEN COMPOUND	DESCRIPTION	
TREFERINGED F/N	TAKT NO.	QUALIFIED	THORING GODE	CODE	DESORTI FION	
RS1M R3	RS1M		R3			
RS1M R3G	RS1M		R3	G	Green compound	
RS1MHR3	RS1M	Н	R3		AEC-Q101 qualified	

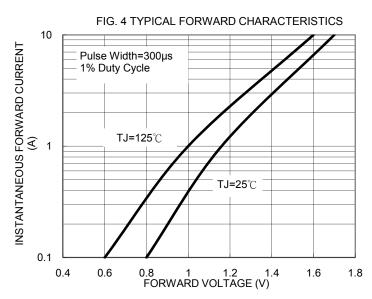
RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)









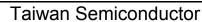




FIG. 5 TYPICAL JUNCTION CAPACITANCE

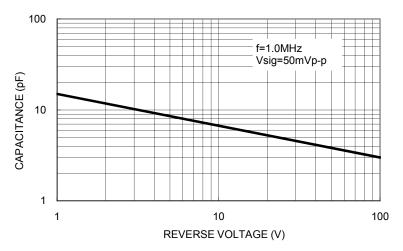
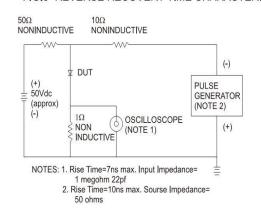
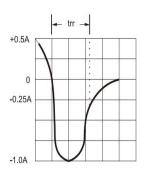
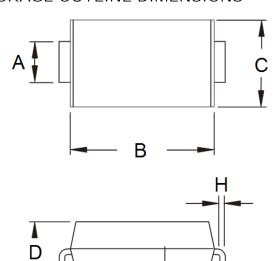


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





PACKAGE OUTLINE DIMENSIONS



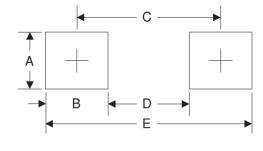
F

G

DIM.	Unit	(mm)	Unit ((inch)
Dilvi.	Min	Max	Min	Max
Α	1.27	1.58	0.050	0.062
В	4.06	4.60	0.160	0.181
С	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
Н	0.15	0.31	0.006	0.012

SUGGESTED PAD LAYOUT

Ε



Symbol	Unit (mm)	Unit (inch)
Α	1.68	0.066
В	1.52	0.060
С	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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