

## High Efficient Surface Mount Rectifiers

### FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Low profile package
- 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)**

### 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)

<b>MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS</b> ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)											
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>HS 2AA</b>	<b>HS 2BA</b>	<b>HS 2DA</b>	<b>HS 2FA</b>	<b>HS 2GA</b>	<b>HS 2JA</b>	<b>HS 2KA</b>	<b>HS 2MA</b>	<b>UNIT</b>	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	V	
Maximum RMS voltage	$V_{RMS}$	35	70	140	210	280	420	560	700	V	
Maximum DC blocking voltage	$V_{DC}$	50	100	200	300	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	$V_F$	1.0			1.3		1.7			V	
Maximum reverse current @ rated VR $T_J=25^{\circ}\text{C}$ $T_J=125^{\circ}\text{C}$	$I_R$	5 100								$\mu\text{A}$	
Maximum reverse recovery time (Note 2)	$t_{rr}$	50					75				ns
Typical junction capacitance (Note 3)	$C_j$	50					30				pF
Typical thermal resistance	$R_{\theta JA}$	80								$^{\circ}\text{C}/\text{W}$	
Operating junction temperature range	$T_J$	- 55 to +150								$^{\circ}\text{C}$	
Storage temperature range	$T_{STG}$	- 55 to +150								$^{\circ}\text{C}$	

Note 1: Pulse test with  $PW=300\mu\text{s}$ , 1% duty cycle

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

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
HS2xA (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 (HS2AA) to 1000V (HS2MA)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
HS2MA R3	HS2MA		R3		
HS2MA R3G	HS2MA		R3	G	Green compound
HS2MAHR3	HS2MA	H	R3		AEC-Q101 qualified

**RATINGS AND CHARACTERISTICS CURVES**

(TA=25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

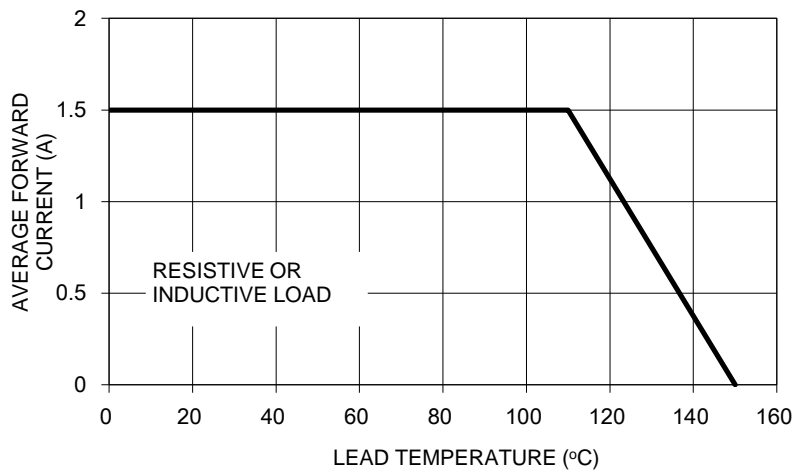


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

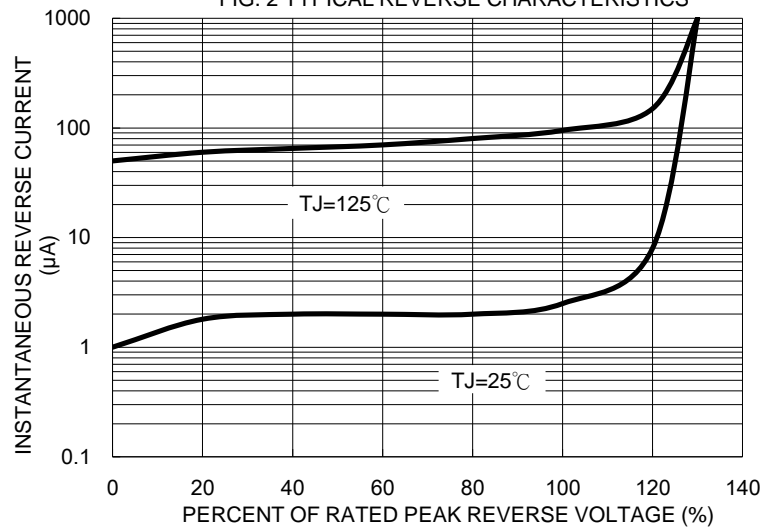


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

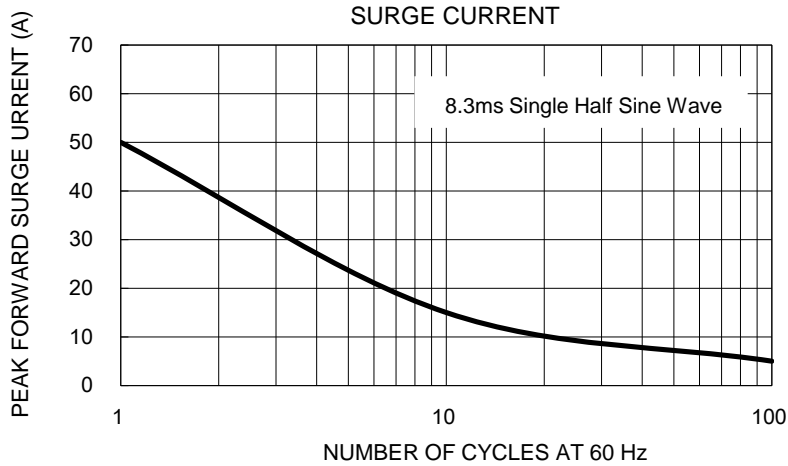


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

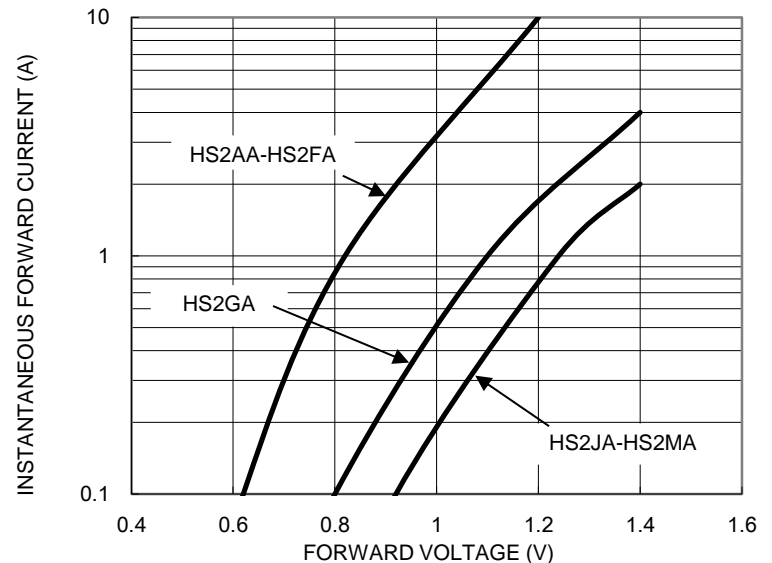


FIG. 5 TYPICAL JUNCTION CAPACITANCE

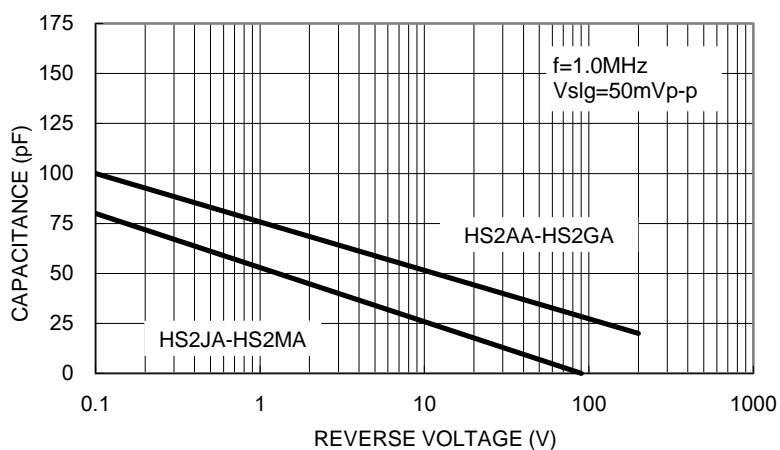
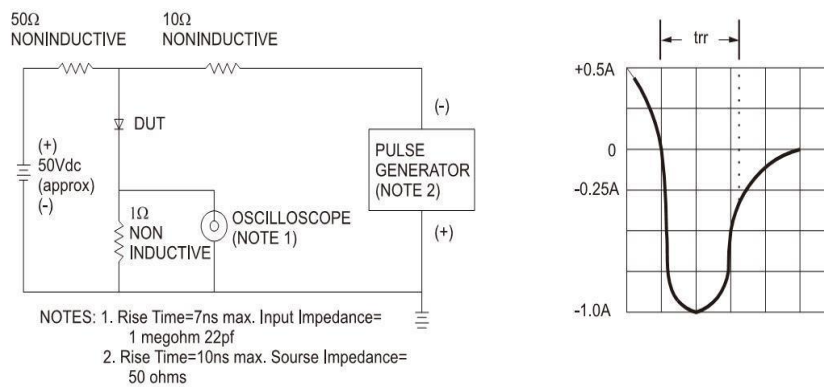
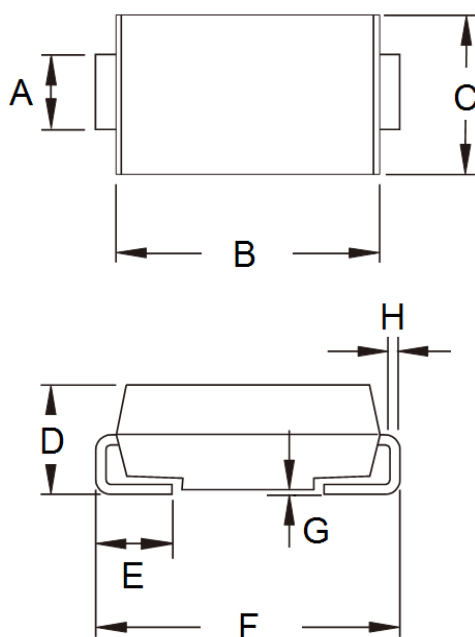


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

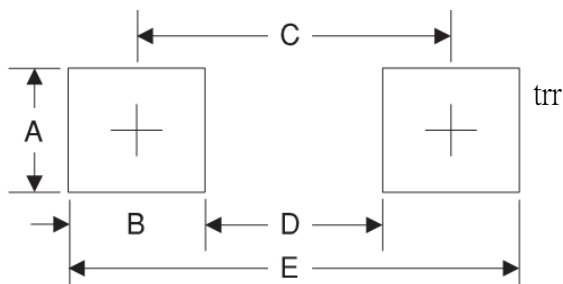


**PACKAGE OUTLINE DIMENSIONS**



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