

- High current capability
- High surge current capability
- 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-214AB (SMC)

**DO-214AB (SMC)**

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:** 0.21 g (approximately)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOL	S3A	S3B	S3D	S3G	S3J	S3K
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800
Maximum average forward rectified current	I <sub>F(AV)</sub>	3					
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	100					
Maximum instantaneous forward voltage (Note 1) I <sub>F</sub> = 3 A	V <sub>F</sub>	1.15					
Maximum reverse current @ rated VR T <sub>J</sub> =25 °C T <sub>J</sub> =125 °C	I <sub>R</sub>	10 250					
Typical reverse recovery time (Note 2)	T <sub>rr</sub>	1.5					
Typical junction capacitance (Note 3)	C <sub>j</sub>	60					
Typical thermal resistance	R <sub>θJL</sub> R <sub>θJA</sub>	13 47					
Operating junction temperature range	T <sub>J</sub>	- 55 to +150					
Storage temperature range	T <sub>STG</sub>	- 55 to +150					

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

Note 2: Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

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

Document Number: DS\_D1405068

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESIGNATION
S3M R7	S3M		R7		
S3M R7G	S3M		R7	G	Green
S3MHR7	S3M	H	R7		AEC-Q

### RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

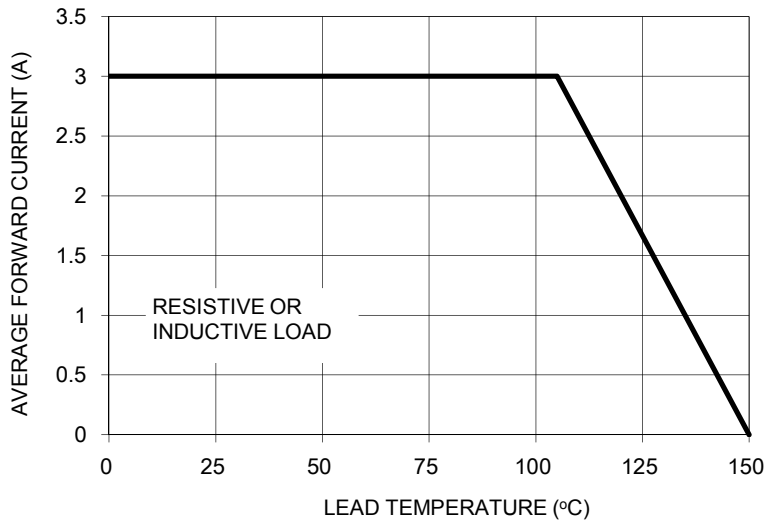


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

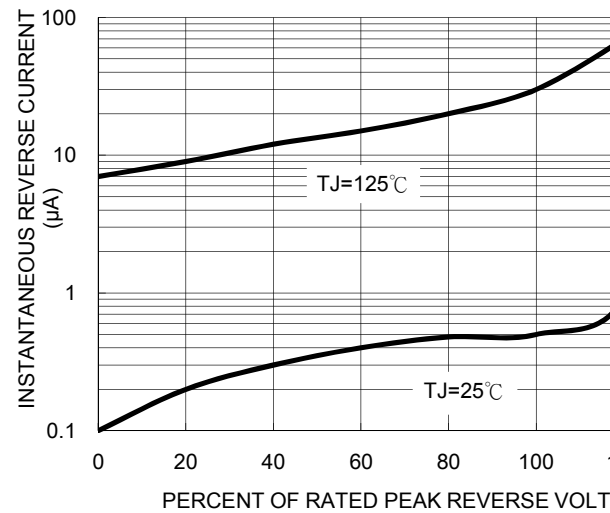


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

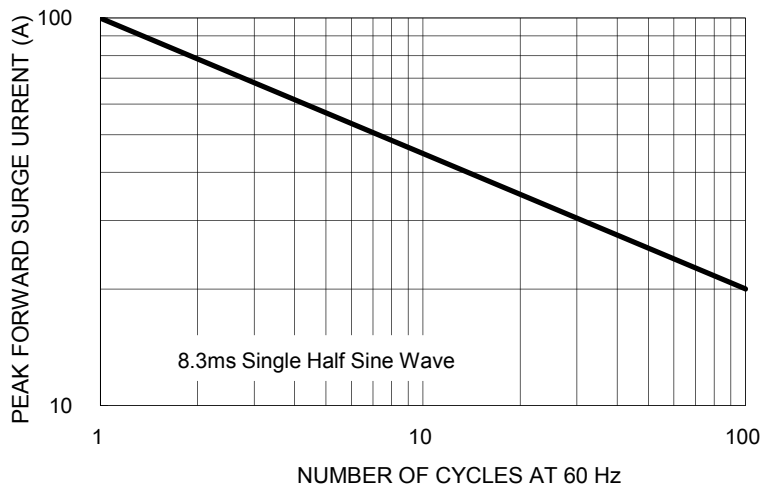
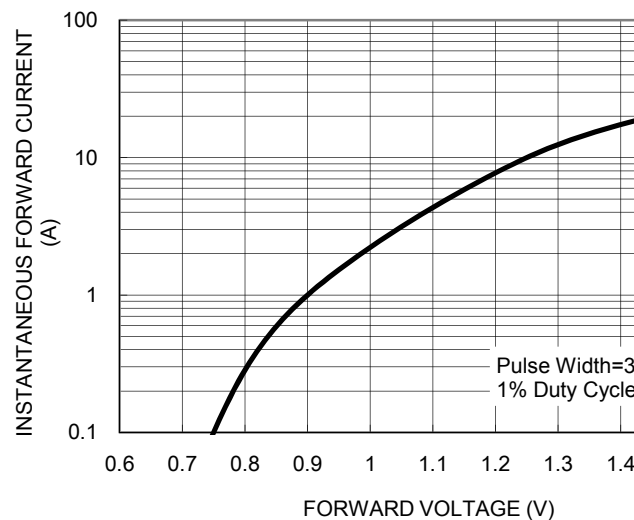
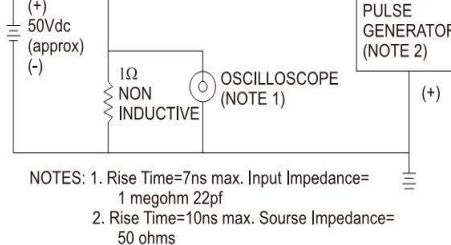
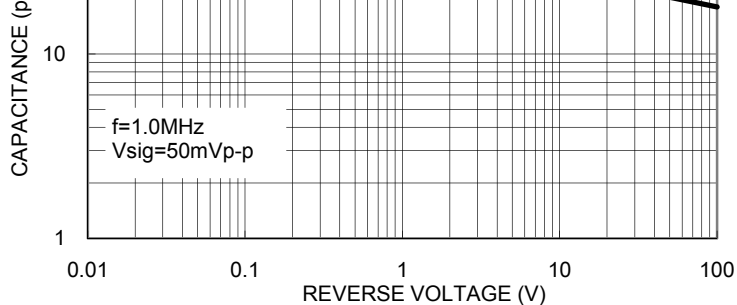
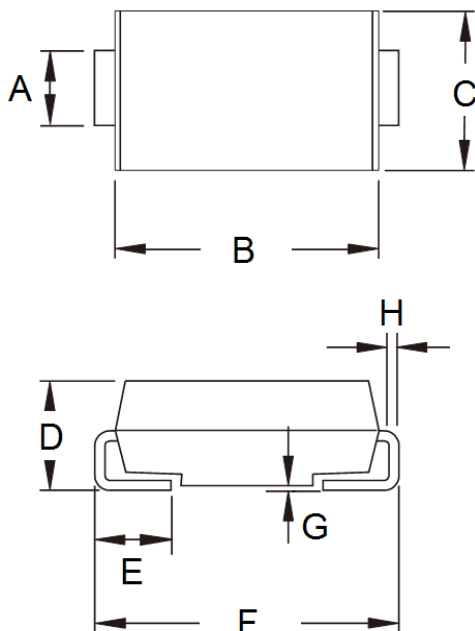


FIG. 4 TYPICAL FORWARD CHARACTERISTICS



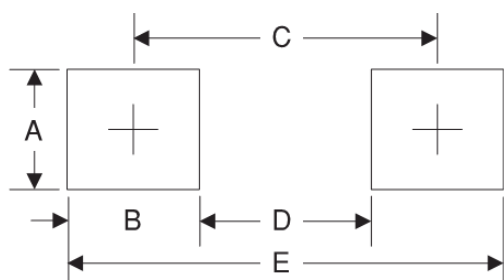


## PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.90	3.20	0.114	0.126
B	6.60	7.11	0.260	0.280
C	5.59	6.22	0.220	0.245
D	2.00	2.62	0.079	0.103
E	1.00	1.60	0.039	0.063
F	7.75	8.13	0.305	0.320
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	3.3	0.130
B	2.5	0.098
C	6.8	0.268
D	4.4	0.173
E	9.4	0.370

## MARKING DIAGRAM



P/N = Specific Device Code  
 G = Green Compound  
 YW = Date Code  
 F = Factory Code

## Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, of any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to indemnify TSC for any damages resulting from such improper use or sale.

Document Number: DS\_D1405068