

## Glass Passivated Fast Recovery Rectifiers

### FEATURES

- Glass passivated chip junction
- High efficiency, Low VF
- High current capability
- High reliability
- High surge current capability
- Low power loss
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition


**TS-1**

### MECHANICAL DATA

**Case:** TS-1

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

**Weight:** 0.2g (approximately)

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

PARAMETER	SYMBOL	F1T	F1T	F1T	F1T	F1T	F1T	F1T	UNIT
		1G	2G	3G	4G	5G	6G	7G	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	1							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	30							A
Maximum instantaneous forward voltage (Note 1) @ 1 A	V <sub>F</sub>	1.3							V
Maximum reverse current @ rated VR T <sub>J</sub> =25 °C T <sub>J</sub> =125 °C	I <sub>R</sub>	5 150							μA
Maximum reverse recovery time (Note 2)	T <sub>rr</sub>	150			250		500		ns
Typical junction capacitance (Note 3)	C <sub>j</sub>	15							pF
Typical thermal resistance	R <sub>θJA</sub>	90							°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +150							°C
Storage temperature range	T <sub>STG</sub>	- 55 to +150							°C

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.

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
F1TxG (Note 1)	Prefix "H"	A0	Suffix "G"	TS-1	3,000 / Ammo box (52mm taping)
		A1		TS-1	3,000 / Ammo box (26mm taping)
		R0		TS-1	5,000 / 13" Paper reel
		B0		TS-1	1,000 / Bulk packing

Note 1: "x" defines voltage from 50V (F1T1G) to 1000V (F1T7G)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
F1T1G A0	F1T1G		A0		
F1T1G A0G	F1T1G		A0	G	Green compound
F1T1GHA0	F1T1G	H	A0		AEC-Q101 qualified

**RATINGS AND CHARACTERISTICS CURVES**

(TA=25°C unless otherwise noted)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

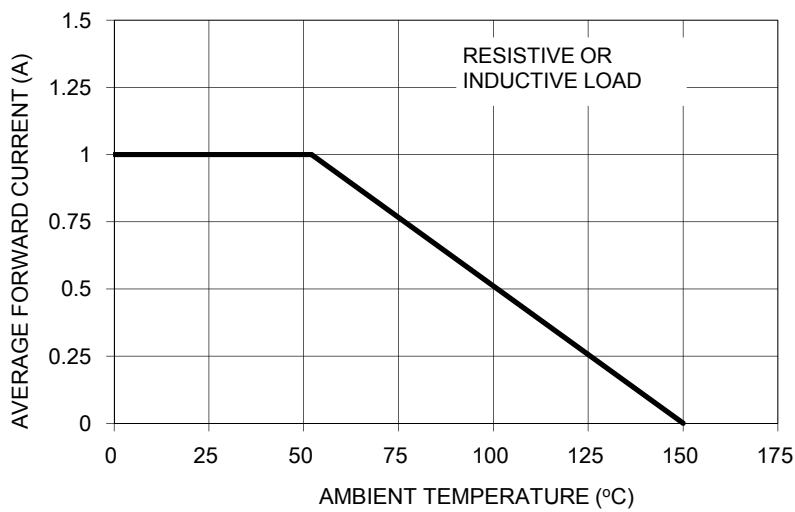


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

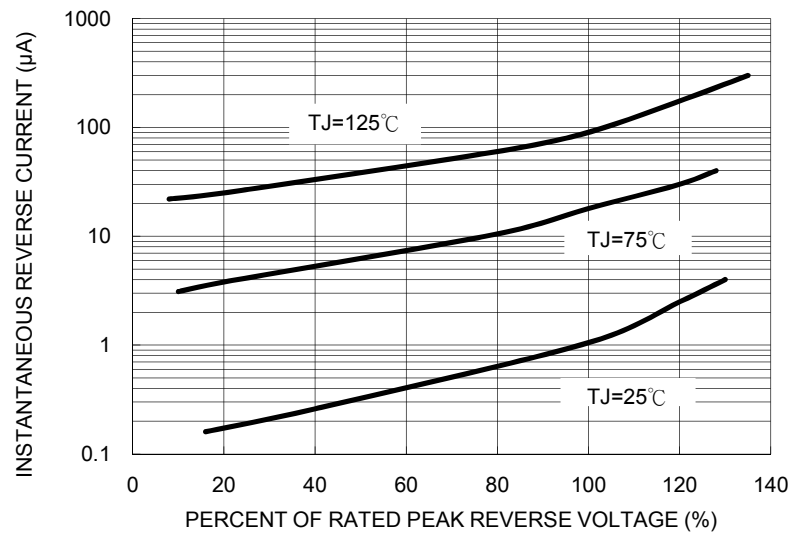


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

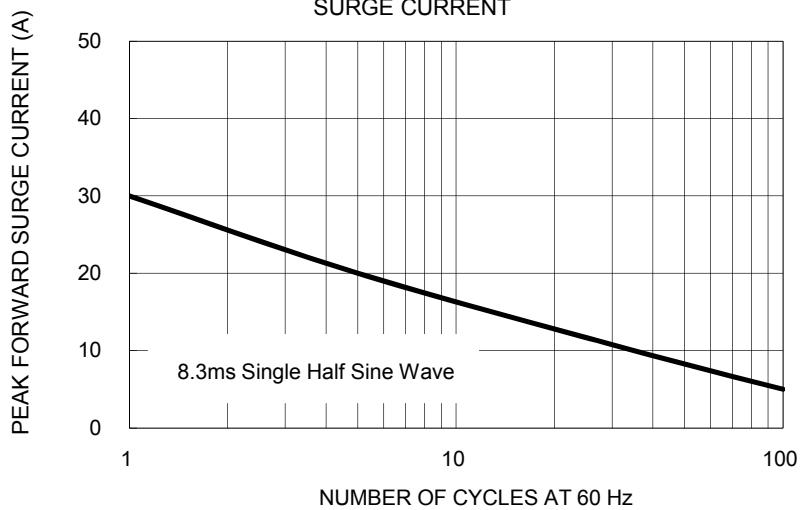


FIG. 4- TYPICAL FORWARD CHARACTERISTICS

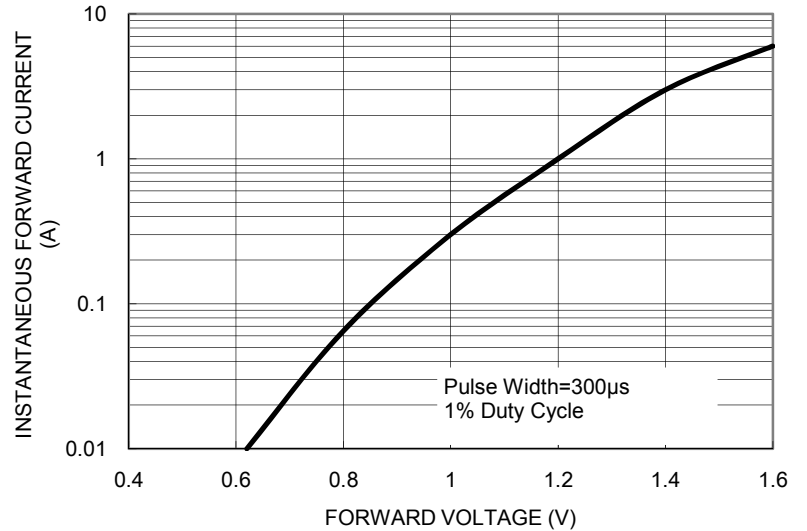


FIG. 5- TYPICAL JUNCTION CAPACITANCE

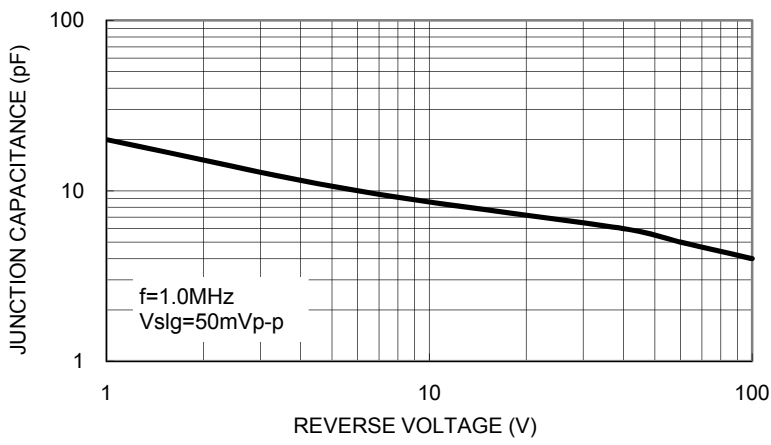
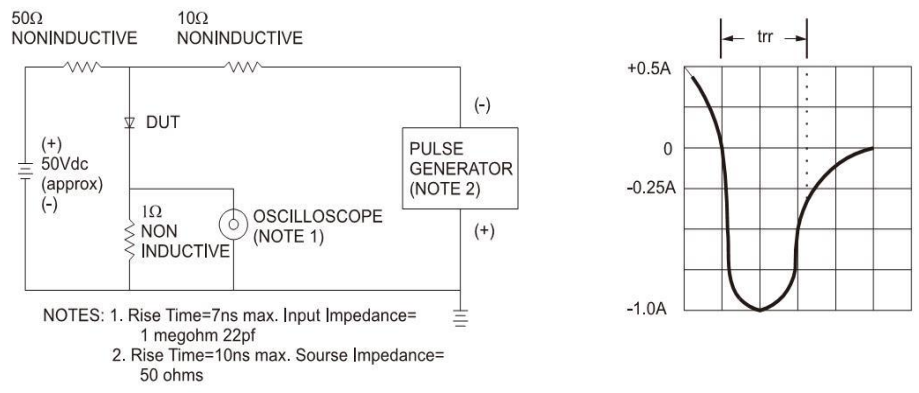
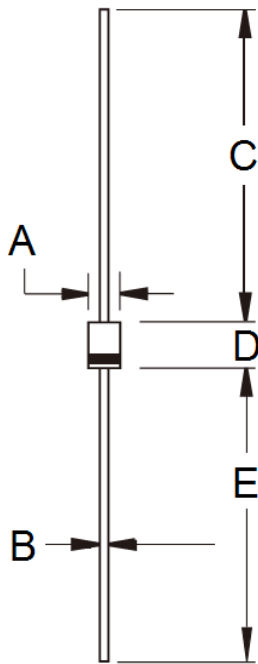


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.00	2.70	0.079	0.106
B	0.53	0.64	0.021	0.025
C	25.40	-	1.000	-
D	3.00	3.30	0.118	0.130
E	25.40	-	1.000	-

MARKING DIAGRAM



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

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