

## 1A, 50V - 1000V Glass Passivated Rectifiers

### FEATURES

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- 3mm miniature body
- 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

Part No. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

**Terminal:** Pure tin plated leads, solderable per JESD22-B102

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             | 1T1G         | 1T2G | 1T3G | 1T4G | 1T5G | 1T6G | 1T7G | UNIT |
| 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)<br>@ 1 A                                      | V <sub>F</sub>     | 1.1          |      | 1.0  |      |      |      | V    |      |
| Maximum reverse current @ rated VR    T <sub>J</sub> =25 °C<br>T <sub>J</sub> =125 °C        | I <sub>R</sub>     | 5<br>100     |      |      |      |      |      |      | μA   |
| Typical junction capacitance (Note 2)                                                        | C <sub>J</sub>     | 10           |      |      |      |      |      |      | pF   |
| Typical thermal resistance                                                                   | R <sub>θJA</sub>   | 100          |      |      |      |      |      |      | °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: Measured at 1.0 MHz and Applied V<sub>R</sub>=4.0 Volts

| ORDERING INFORMATION |                 |              |                     |         |                                |
|----------------------|-----------------|--------------|---------------------|---------|--------------------------------|
| PART NO.             | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING                        |
| 1TxG<br>(Note 1)     | H               | A0           | 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 (1T1G) to 1000V (1T7G)

| EXAMPLE       |          |                 |              |                     |                                      |
|---------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| PREFERRED P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
| 1T7GHA0G      | 1T7G     | H               | A0           | G                   | AEC-Q101 qualified<br>Green compound |

## RATINGS AND CHARACTERISTICS CURVES

(T<sub>A</sub>=25°C unless otherwise noted)

FIG.1 MAXMUM FORWARD CURRENT DERATING CURVE

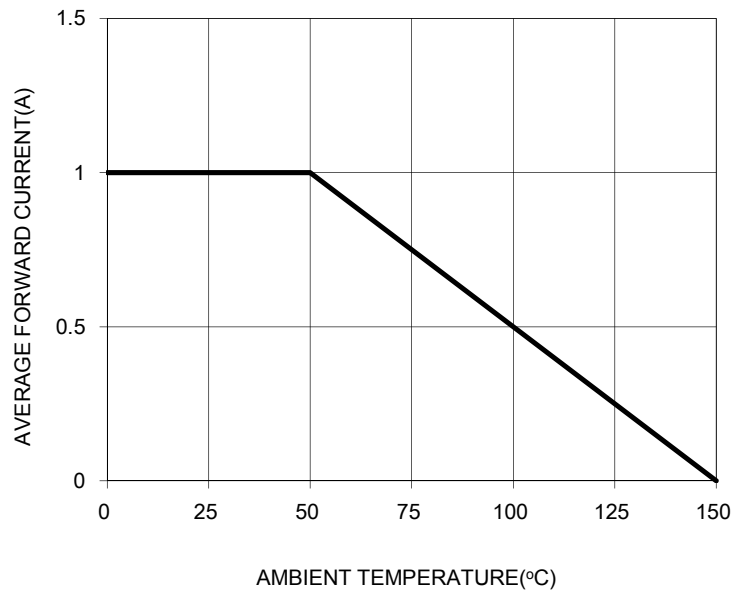


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

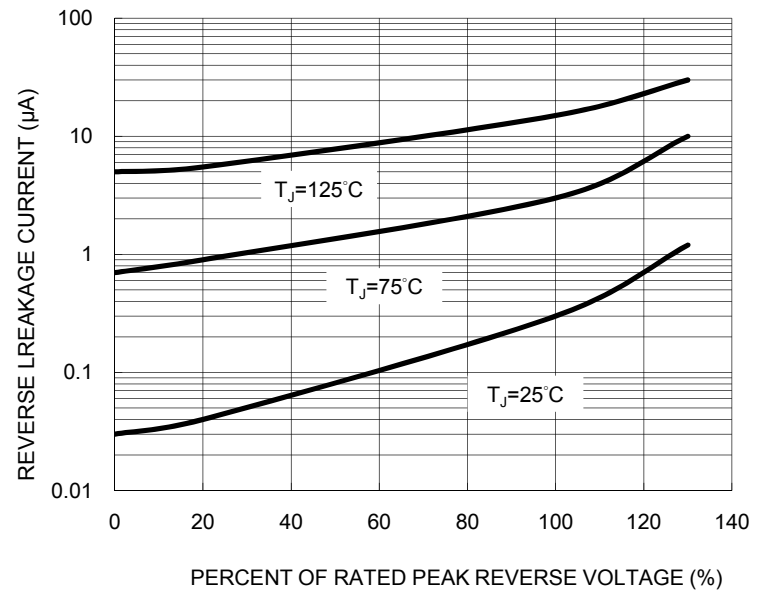


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

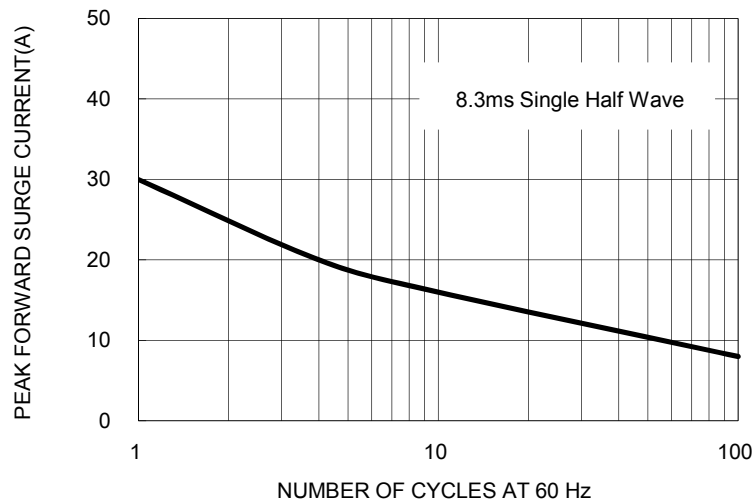
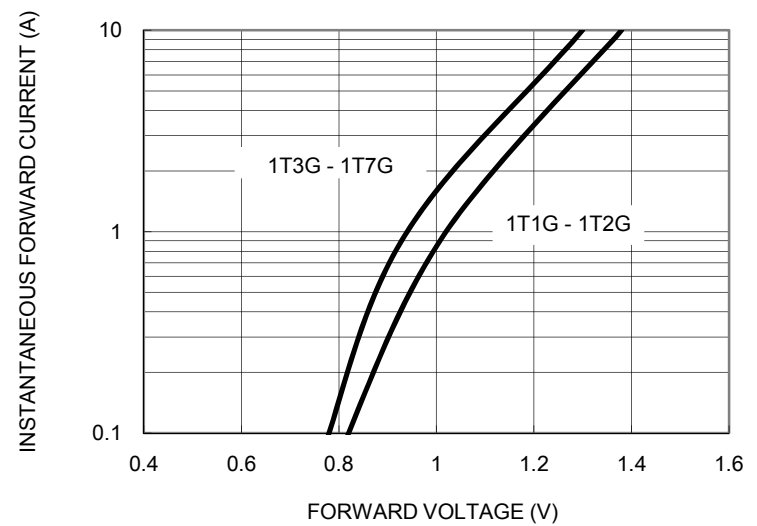
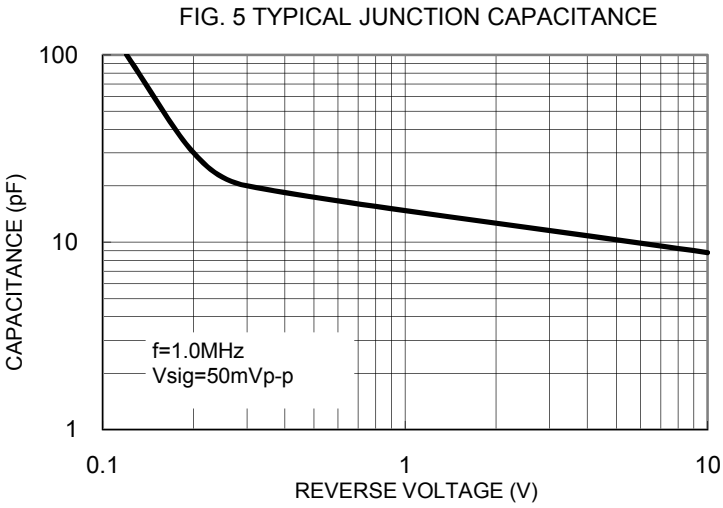
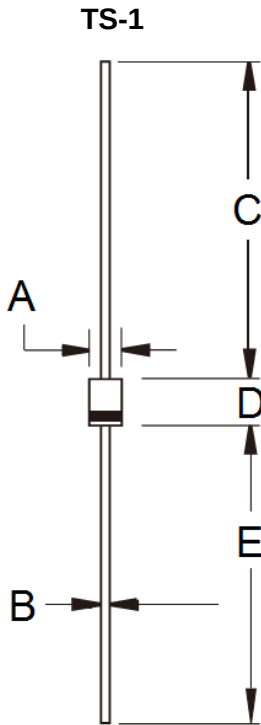


FIG. 4 TYPICAL FORWARD CHARACTERISTICS



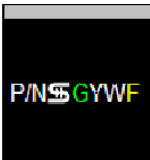


PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 2.00      | 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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- Техническая поддержка проекта;
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