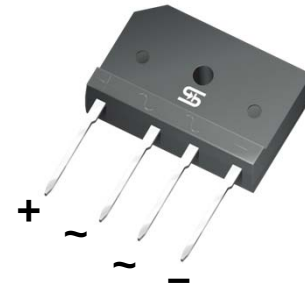


## 50A, 600V - 1000V Glass Passivated Bridge Rectifiers

### FEATURES

- Glass passivated junction
- Ideal for printed circuit board
- Typical  $I_R$  less than  $0.1\mu A$
- High surge current capability
- ESD capability PASS AEC-Q101 level H3B
- ESD capability PASS IEC61000-4-2 level 4
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



TS-6P



### MECHANICAL DATA

**Case:** TS-6P

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)

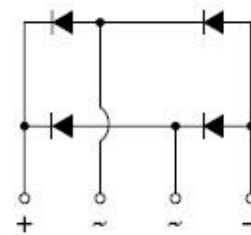
**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

**Polarity:** Polarity as marked on the body

**Mounting torque:** 8.17 in-lbs maximum

**Weight:** 7.15 g (approximately)



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ C$ unless otherwise noted) |                 |              |          |          |                  |
|-------------------------------------------------------------------------------------------|-----------------|--------------|----------|----------|------------------|
| PARAMETER                                                                                 | SYMBOL          | TS50P05G     | TS50P06G | TS50P07G | UNIT             |
| Maximum repetitive peak reverse voltage                                                   | $V_{RRM}$       | 600          | 800      | 1000     | V                |
| Maximum RMS voltage                                                                       | $V_{RMS}$       | 420          | 560      | 700      | V                |
| Maximum DC blocking voltage                                                               | $V_{DC}$        | 600          | 800      | 1000     | V                |
| Maximum average forward rectified current                                                 | $I_{F(AV)}$     | 50           |          |          | A                |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load       | $I_{FSM}$       | 400          |          |          | A                |
| Rating for fusing ( $t < 8.3ms$ )                                                         | $I^2t$          | 664          |          |          | A <sup>2</sup> s |
| Maximum instantaneous forward voltage (Note 1)<br>@ 25 A                                  | $V_F$           | 1.1          |          |          | V                |
| Maximum reverse current @ rated $V_R$<br>$T_J=25^\circ C$<br>$T_J=125^\circ C$            | $I_R$           | 10<br>500    |          |          | $\mu A$          |
| Typical thermal resistance                                                                | $R_{\theta JC}$ | 0.56         |          |          | $^\circ C/W$     |
| Operating junction temperature range                                                      | $T_J$           | - 55 to +150 |          |          | $^\circ C$       |
| Storage temperature range                                                                 | $T_{STG}$       | - 55 to +150 |          |          | $^\circ C$       |

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

| ORDERING INFORMATION |                 |              |                         |         |                  |
|----------------------|-----------------|--------------|-------------------------|---------|------------------|
| PART NO.             | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX (*) | PACKAGE | PACKING          |
| TS50P0xG<br>(Note 1) | H               | C2           | G                       | TS-6P   | 15 / TUBE        |
|                      |                 | X0           |                         | TS-6P   | Forming          |
|                      |                 | D2           |                         | TS-6P   | 15 / TUBE (Auto) |

Note 1: "x" defines voltage from 600V (TS50P05G) to 1000V (TS50P07G)

\*: Optional available

| EXAMPLE            |          |                 |              |                     |                                      |
|--------------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| PREFERRED PART NO. | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
| TS50P07GHC2G       | TS50P07G | H               | C2           | G                   | AEC-Q101 qualified<br>Green compound |

## RATINGS AND CHARACTERISTICS CURVES

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

FIG.1 FORWARD CURRENT DERATING CURVE

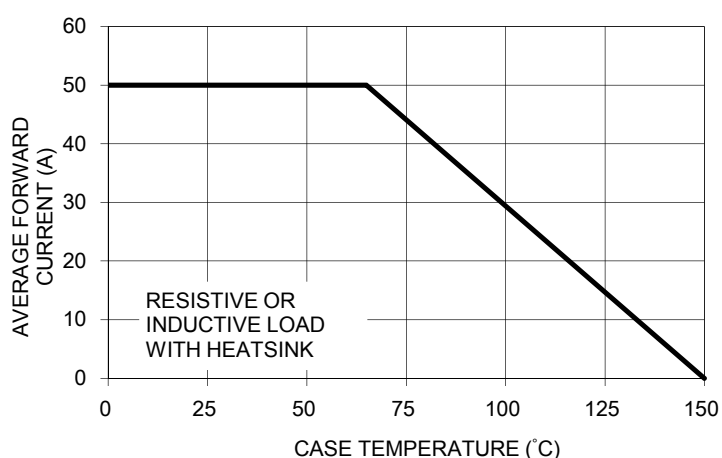


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

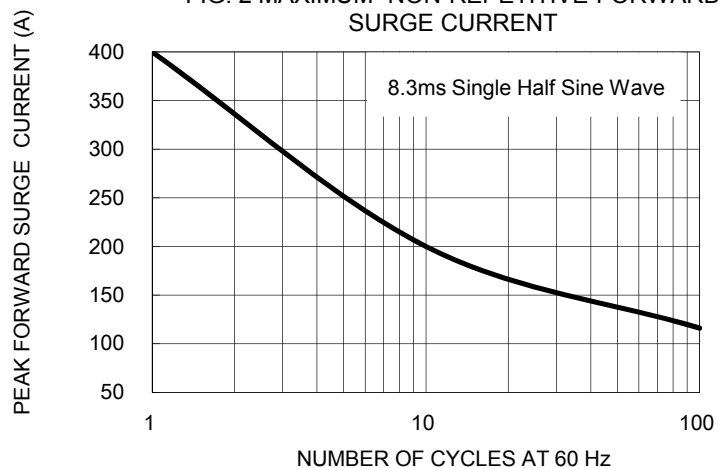


FIG. 3 TYPICAL REVERSE CHARACTERISTICS

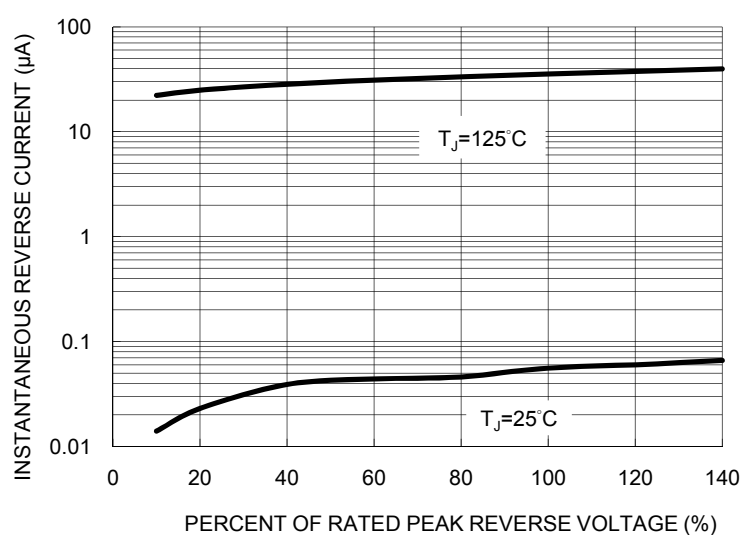


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

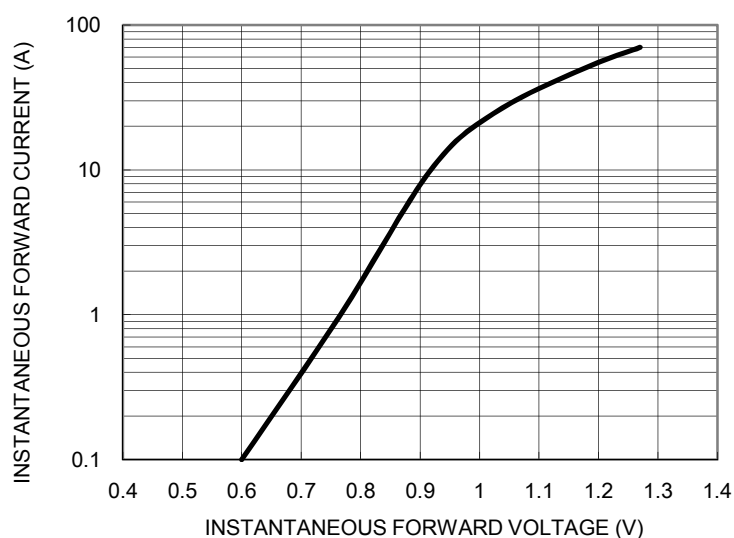
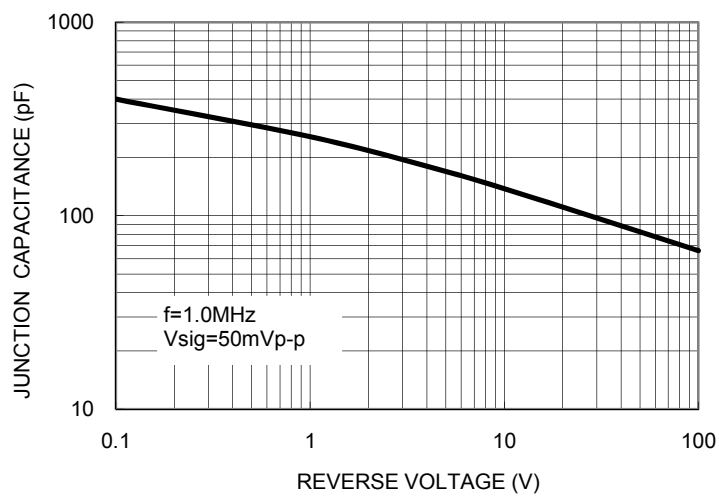
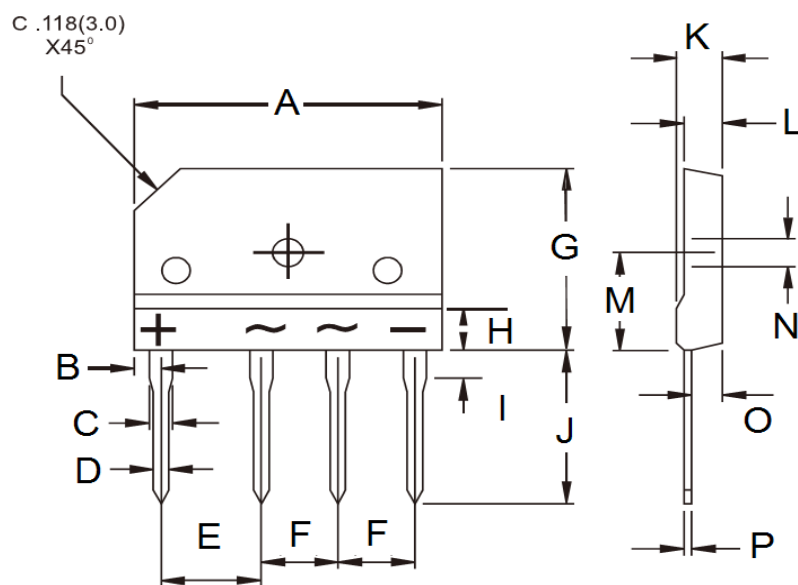


FIG. 5 TYPICAL JUNCTION CAPACITANCE



# PACKAGE OUTLINE DIMENSIONS

## TS-6P



| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | 29.70     | 30.30 | 1.169       | 1.193 |
| B    | 2.30      | 2.70  | 0.091       | 0.106 |
| C    | 2.00      | 2.40  | 0.079       | 0.094 |
| D    | 0.90      | 1.10  | 0.035       | 0.043 |
| E    | 9.80      | 10.20 | 0.386       | 0.402 |
| F    | 7.30      | 7.70  | 0.287       | 0.303 |
| G    | 19.70     | 20.30 | 0.776       | 0.799 |
| H    | -         | 4.80  | -           | 0.189 |
| I    | 3.80      | 4.20  | 0.150       | 0.165 |
| J    | 17.00     | 18.00 | 0.669       | 0.709 |
| K    | 4.40      | 4.80  | 0.173       | 0.189 |
| L    | 3.40      | 3.80  | 0.134       | 0.150 |
| M    | 10.80     | 11.20 | 0.425       | 0.441 |
| N    | 3.10      | 3.40  | 0.122       | 0.134 |
| O    | 2.50      | 2.90  | 0.098       | 0.114 |
| P    | 0.65      | 0.75  | 0.026       | 0.030 |

# MARKING DIAGRAM



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

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