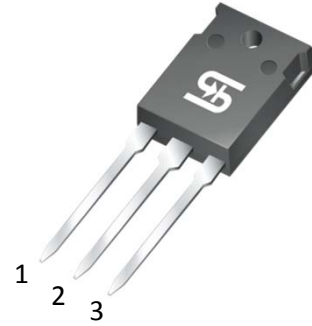


16A, 50V - 1000V Glass Passivated High Efficient Rectifiers

FEATURES

- Superfast recovery time, high voltage
- Low forward voltage, high current capability
- Low thermal resistance
- Low power loss, high efficiency
- 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



MECHANICAL DATA

Case: TO-247AD (TO-3P)

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

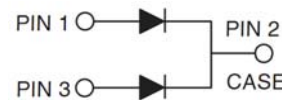
Meet JESD 201 class 2 whisker test

Polarity: As marked

Mounting torque: 1.13 Nm max.

Weight: 5.6 g (approximately)

TO-247AD (TO-3P)



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | | | | | | | | | |
|---|--------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|----|
| PARAMETER | SYMBOL | HER 1601 PT | HER 1602 PT | HER 1603 PT | HER 1604 PT | HER 1605 PT | HER 1606 PT | HER 1607 PT | HER 1608 PT | UNIT | |
| 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)} | 16 | | | | | | | | A | |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 200 | | | | | | | | A | |
| Maximum instantaneous forward voltage (Note 1) I _F = 8 A | V _F | 1.0 | | | 1.3 | | 1.7 | | | V | |
| Maximum reverse current @ rated V _R T _J =25°C T _J =125°C | I _R | 10 500 | | | | | | | | μA | |
| Maximum reverse recovery time (Note 2) | t _{rr} | 50 | | | | | 80 | | | | ns |
| Typical junction capacitance (Note 3) | C _J | 85 | | | | | 60 | | | | pF |
| Operating junction temperature range | T _J | - 55 to +150 | | | | | | | | °C | |
| Storage temperature range | T _{STG} | - 55 to +150 | | | | | | | | °C | |

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

Note 2: Test conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and applied reverse voltage of 4.0V DC.

ORDERING INFORMATION

| PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX (*) | PACKAGE | PACKING |
|--------------------|-----------------|--------------|-------------------------|---------|-----------|
| HER16xxPT (Note 1) | H | C0 | G | TO-3P | 50 / Tube |

Note 1: "xx" defines voltage from 50V (HER1601PT) to 1000V (HER1608PT)

*: Optional available

EXAMPLE

| EXAMPLE P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
|--------------|-----------|-----------------|--------------|---------------------|-----------------------------------|
| HER1606PTHCG | HER1606PT | H | C0 | G | AEC-Q101 qualified Green compound |

RATINGS AND CHARACTERISTICS CURVES

($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

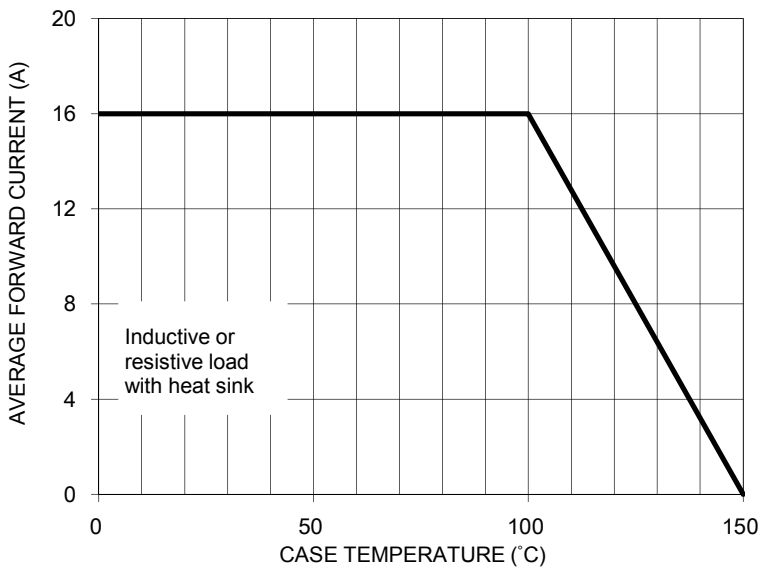


FIG. 2 TYPICAL REVERSE CHARACTERISTICS PER LEG

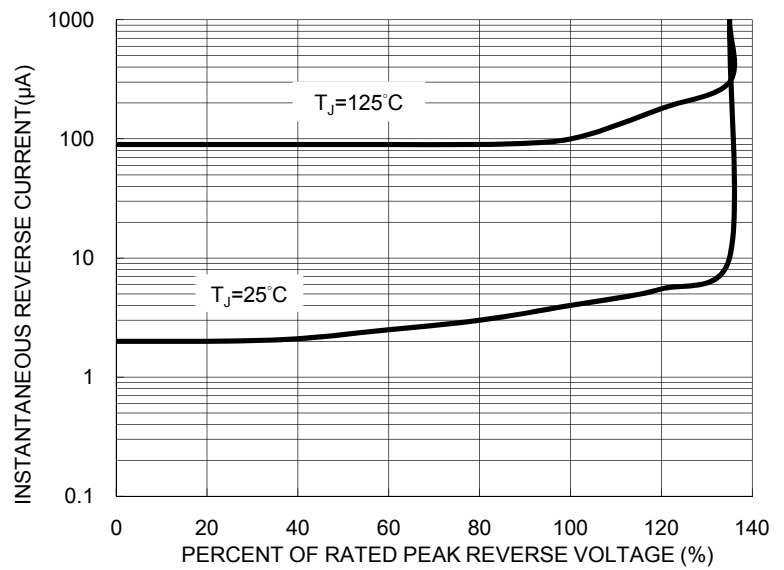


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

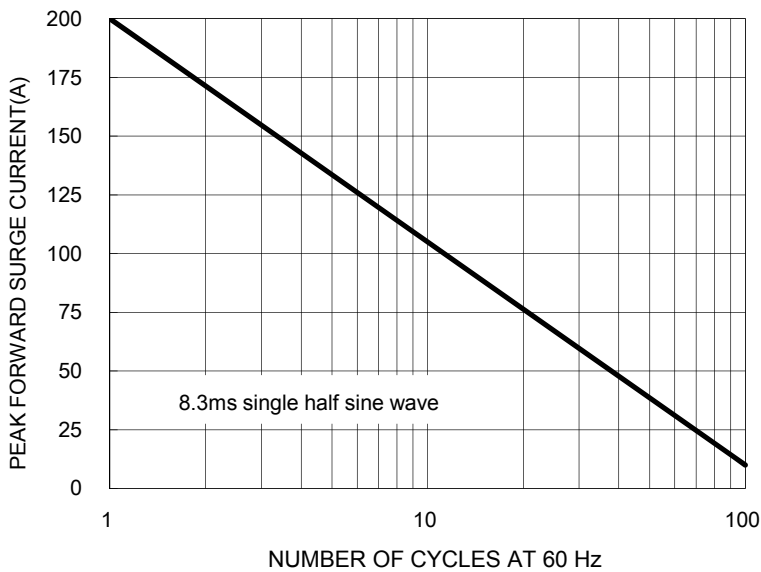


FIG. 4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

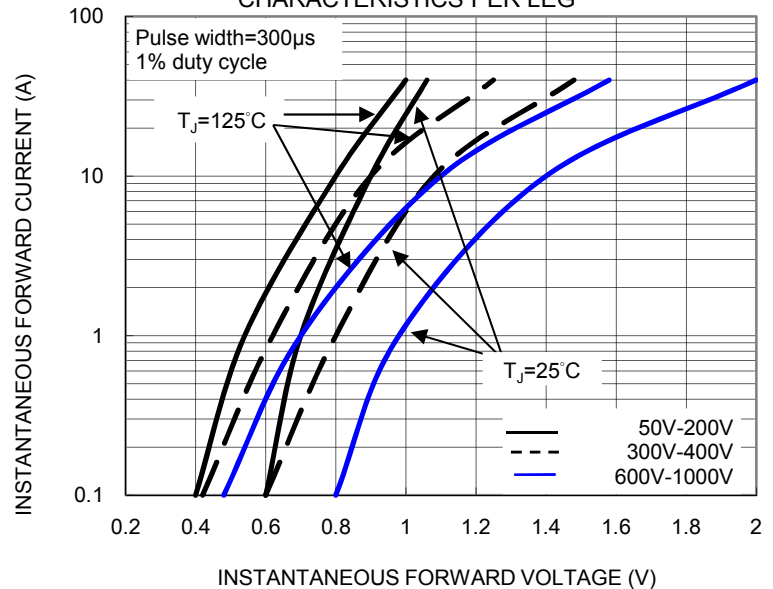


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

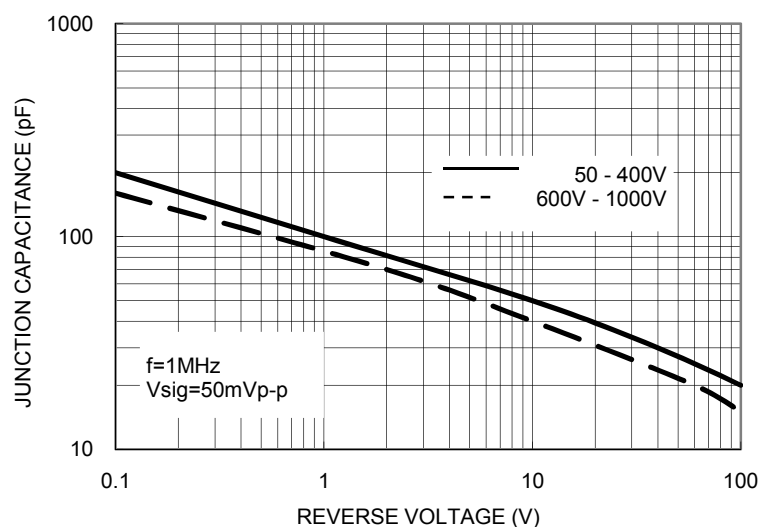
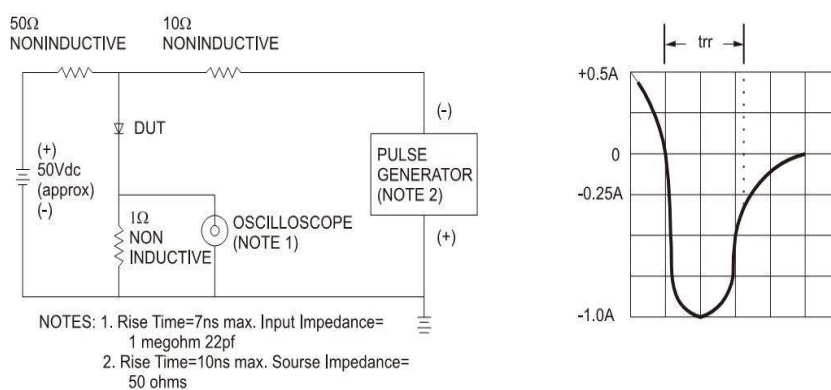
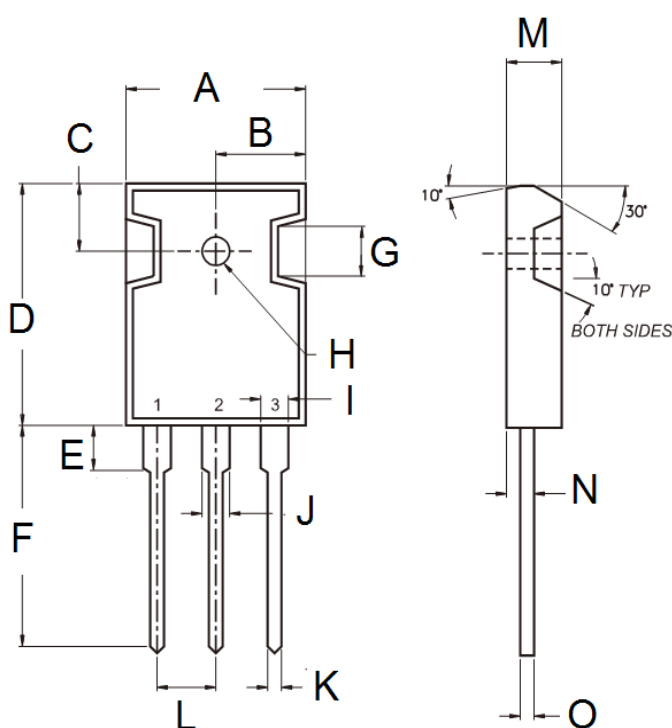


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE OUTLINE DIMENSIONS
TO-247AD (TO-3P)



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|-------|-------------|-------|
| | Min | Max | Min | Max |
| A | 15.90 | 16.40 | 0.626 | 0.646 |
| B | 7.90 | 8.20 | 0.311 | 0.323 |
| C | 5.70 | 6.20 | 0.224 | 0.244 |
| D | 20.80 | 21.30 | 0.819 | 0.839 |
| E | 3.50 | 4.10 | 0.138 | 0.161 |
| F | 19.70 | 20.20 | 0.776 | 0.795 |
| G | - | 4.30 | - | 0.169 |
| H | 2.90 | 3.40 | 0.114 | 0.134 |
| I | 1.93 | 2.18 | 0.076 | 0.086 |
| J | 2.97 | 3.22 | 0.117 | 0.127 |
| K | 1.12 | 1.22 | 0.044 | 0.048 |
| L | 5.20 | 5.70 | 0.205 | 0.224 |
| M | 4.90 | 5.16 | 0.193 | 0.203 |
| N | 2.70 | 3.00 | 0.106 | 0.118 |
| O | 0.51 | 0.76 | 0.020 | 0.030 |

MARKING DIAGRAM



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

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