

## 4A, 200V - 600V Ultrafast Glass Passivated Rectifiers

### FEATURES

- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Glass passivated junction
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21


**DO-201AD**

### MECHANICAL DATA

**Case:** DO-201AD

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:** 1.2 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)         |                    |              |           |        |      |
|------------------------------------------------------------------------------------------------------|--------------------|--------------|-----------|--------|------|
| PARAMETER                                                                                            | SYMBOL             | MUR420       | MUR440    | MUR460 | UNIT |
| Maximum repetitive peak reverse voltage                                                              | V <sub>RRM</sub>   | 200          | 400       | 600    | V    |
| Maximum RMS voltage                                                                                  | V <sub>RMS</sub>   | 140          | 280       | 420    | V    |
| Maximum DC blocking voltage                                                                          | V <sub>DC</sub>    | 200          | 400       | 600    | V    |
| Maximum average forward rectified current                                                            | I <sub>F(AV)</sub> | 4            |           |        | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load                  | I <sub>FSM</sub>   | 125          |           |        | A    |
| Maximum instantaneous forward voltage (Note 1) @ 4 A                                                 | V <sub>F</sub>     | 0.89         | 1.28      |        | V    |
| Maximum reverse current @ rated V <sub>R</sub> <div>T<sub>J</sub>=25°C<br/>T<sub>J</sub>=125°C</div> | I <sub>R</sub>     | 5<br>150     | 10<br>250 |        | μA   |
| Maximum reverse recovery time (Note 2)                                                               | t <sub>rr</sub>    | 25           | 50        |        | ns   |
| Typical junction capacitance (Note 3)                                                                | C <sub>J</sub>     | 65           |           |        | pF   |
| Typical thermal resistance                                                                           | R <sub>θJL</sub>   | 15           |           |        | °C/W |
|                                                                                                      | R <sub>θJA</sub>   | 28           |           |        |      |
| Operating junction temperature range                                                                 | T <sub>J</sub>     | - 55 to +175 |           |        | °C   |
| Storage temperature range                                                                            | T <sub>STG</sub>   | - 55 to +175 |           |        | °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.             | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX (*) | PACKAGE  | PACKING                |
| MUR4x0<br>(Note 1)   | H               | A0           | G                       | DO-201AD | 500 / Ammo box         |
|                      |                 | R0           |                         | DO-201AD | 1,250 / 13" Paper reel |
|                      |                 | B0           |                         | DO-201AD | 500 / Bulk packing     |
|                      |                 | X0           |                         | DO-201AD | Forming                |

Note 1: "x" defines voltage from 200V (MUR420) to 600V (MUR460)

\*: Optional available

| EXAMPLE       |          |                 |              |                     |                                      |
|---------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| PREFERRED P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
| MUR460HA0G    | MUR460   | H               | A0           | G                   | AEC-Q101 qualified<br>Green compound |

## RATINGS AND CHARACTERISTICS CURVES

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

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

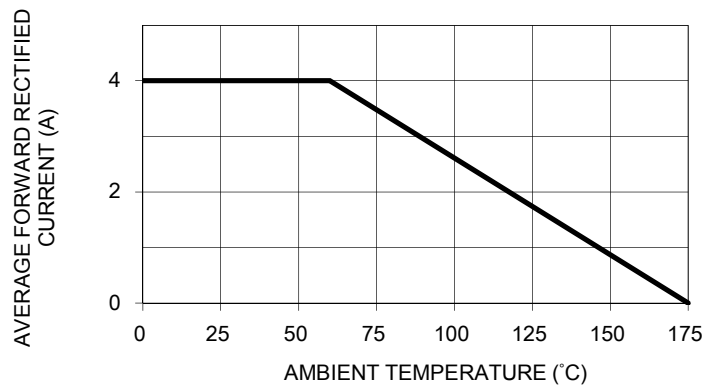


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

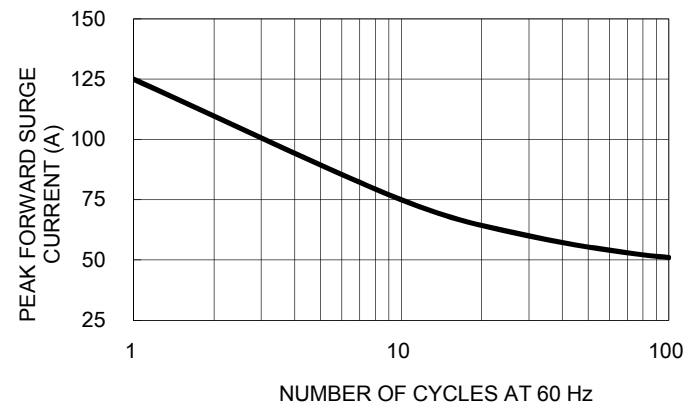


FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

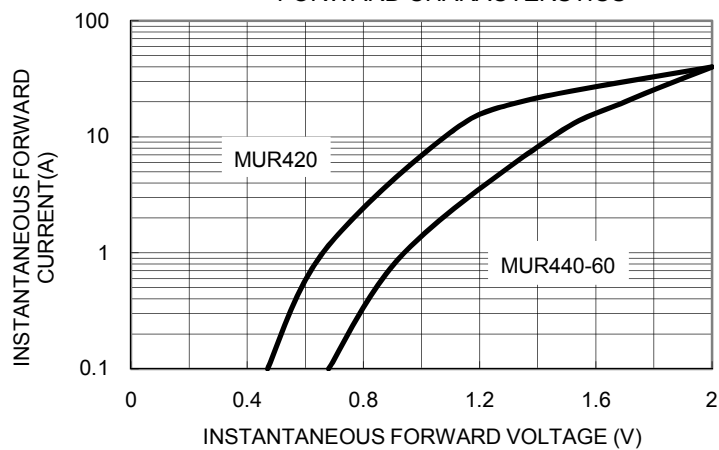


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

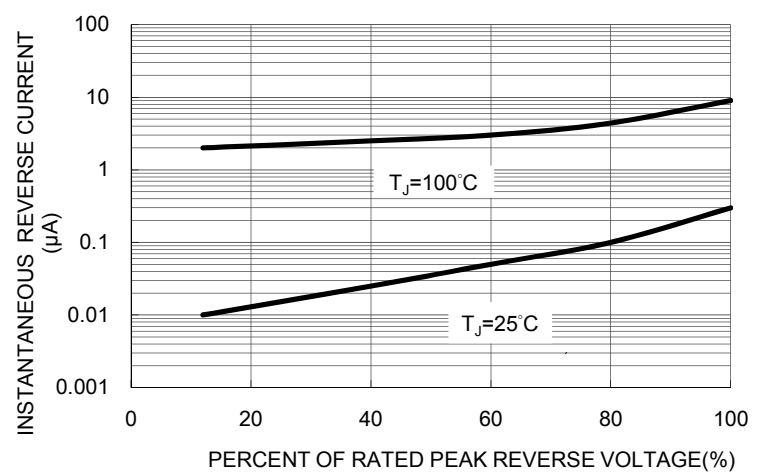


FIG. 5 TYPICAL JUNCTION CAPACITANCE

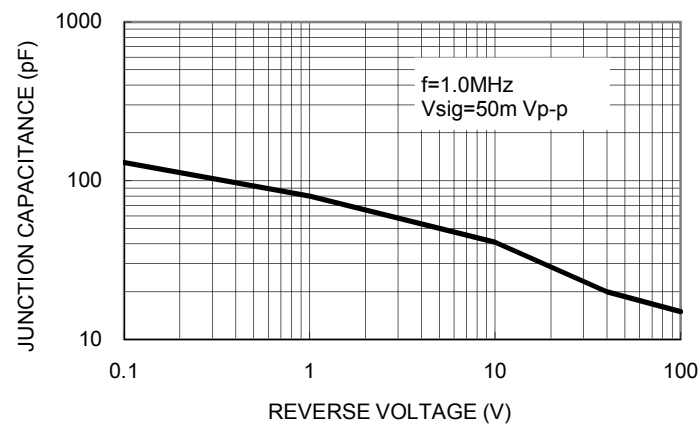
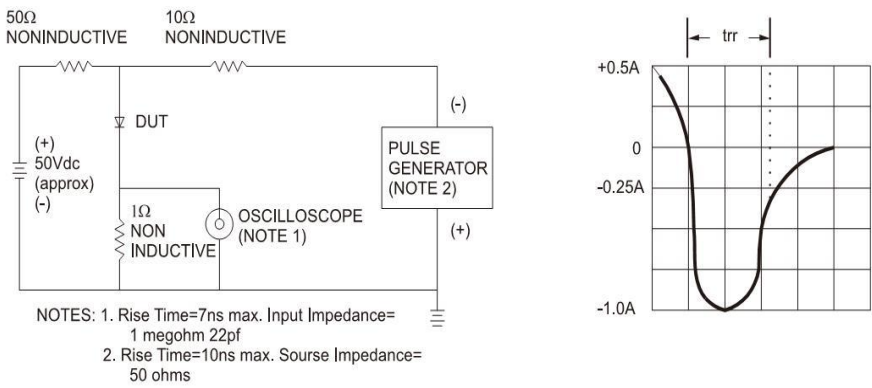
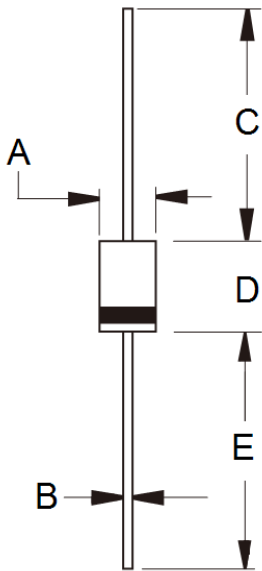


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE OUTLINE DIMENSIONS

DO-201AD



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 5.00      | 5.60 | 0.197       | 0.220 |
| B    | 1.20      | 1.30 | 0.048       | 0.052 |
| C    | 25.40     | -    | 1.000       | -     |
| D    | 8.50      | 9.50 | 0.335       | 0.375 |
| E    | 25.40     | -    | 1.000       | -     |

MARKING DIAGRAM



P/N =

G =

YWW =

F =

Specific Device Code

Green Compound

Date Code

Factory Code

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