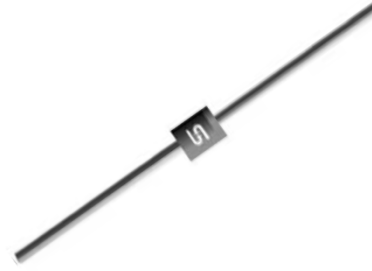


## Glass Passivated High Efficient Rectifiers

### FEATURES

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



**DO-204AL (DO-41)**



### MECHANICAL DATA

**Case:** DO-204AL (DO-41)

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:** 0.33g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERSTICS (T <sub>A</sub> =25°C unless otherwise noted) |                                      |              |      |      |      |      |      |      |      |
|---------------------------------------------------------------------------------------------|--------------------------------------|--------------|------|------|------|------|------|------|------|
| PARAMETER                                                                                   | SYMBOL                               | UF1A         | UF1B | UF1D | UF1G | UF1J | UF1K | UF1M | 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>                       | 1.0          |      |      |      | 1.7  |      |      | 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>150     |      |      |      |      |      |      | μA   |
| Maximum reverse recovery time (Note 2)                                                      | T <sub>rr</sub>                      | 50           |      |      |      | 75   |      |      | ns   |
| Typical junction capacitance (Note 3)                                                       | C <sub>j</sub>                       | 17           |      |      |      |      |      |      | pF   |
| Typical thermal resistance                                                                  | R <sub>θJL</sub><br>R <sub>θJA</sub> | 15<br>60     |      |      |      |      |      |      | °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                          |
| UF1x<br>(Note 1)     | Prefix "H"         | A0           | Suffix "G"          | DO-41   | 3,000 / Ammo box (52mm taping)   |
|                      |                    | R0           |                     | DO-41   | 5,000 / 13" Paper reel           |
|                      |                    | R1           |                     | DO-41   | 5,000 / 13" Paper reel (Reverse) |
|                      |                    | B0           |                     | DO-41   | 1,000 / Bulk packing             |

Note 1: "x" defines voltage from 50V (UF1A) to 1000V (UF1M)

| EXAMPLE       |          |                    |              |                     |                    |
|---------------|----------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION        |
| UF1M A0       | UF1M     |                    | A0           |                     |                    |
| UF1M A0G      | UF1M     |                    | A0           | G                   | Green compound     |
| UF1MHA0       | UF1M     | H                  | A0           |                     | AEC-Q101 qualified |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

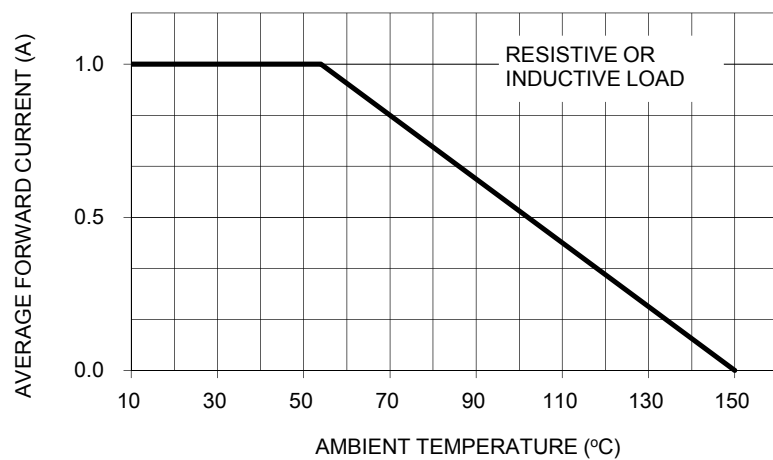


FIG. 2- TYPICAL FORWARD CHARACTERISTICS

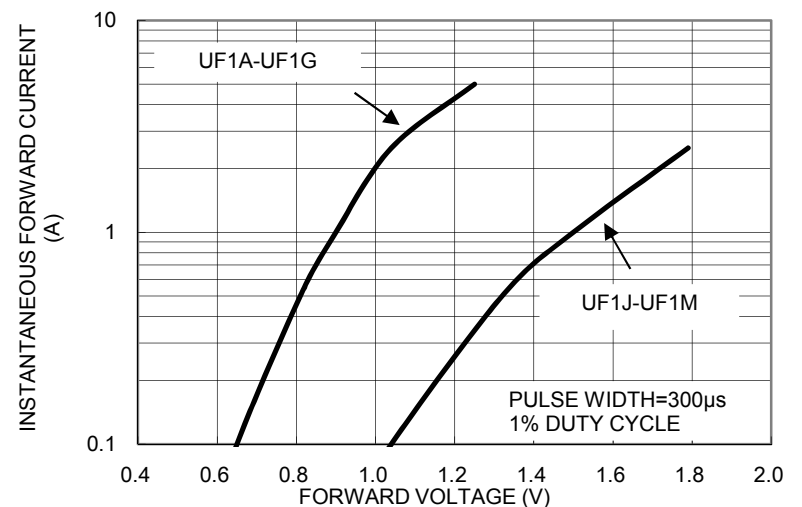


FIG. 3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

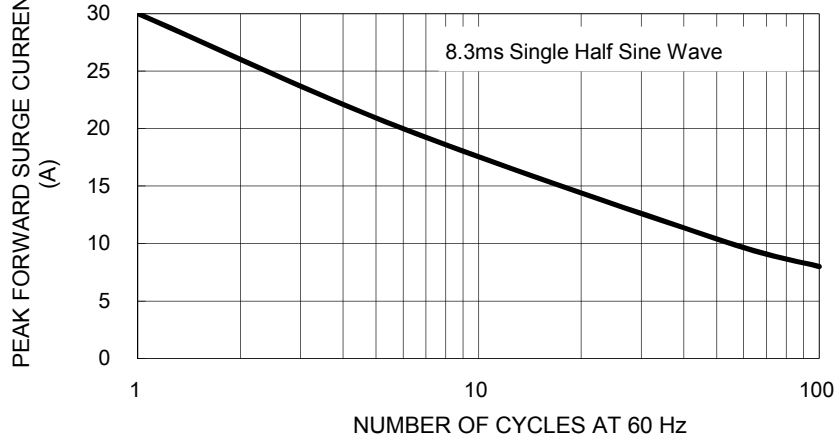


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

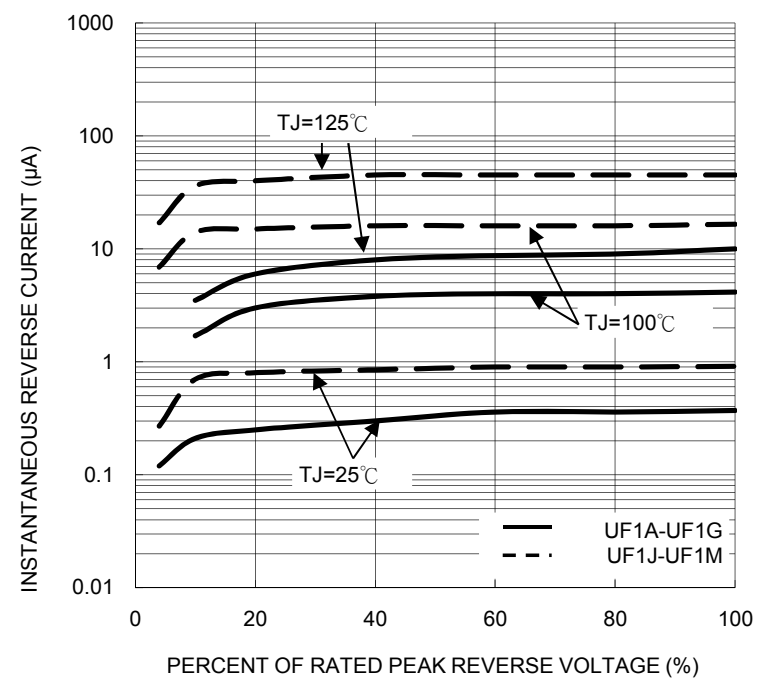


FIG. 5- TYPICAL JUNCTION CAPACITANCE

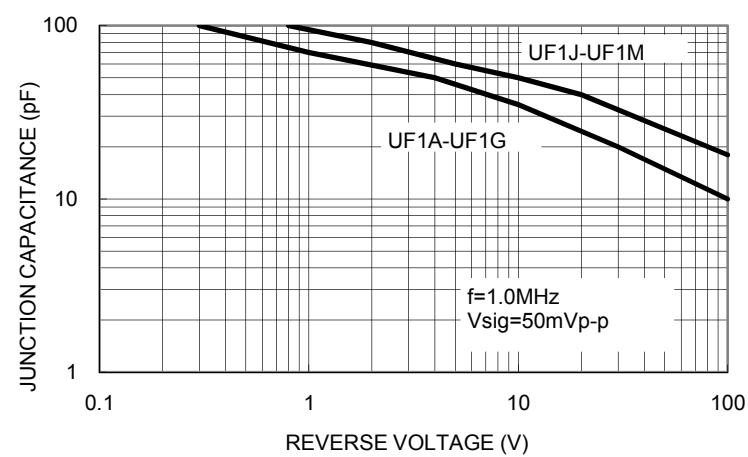
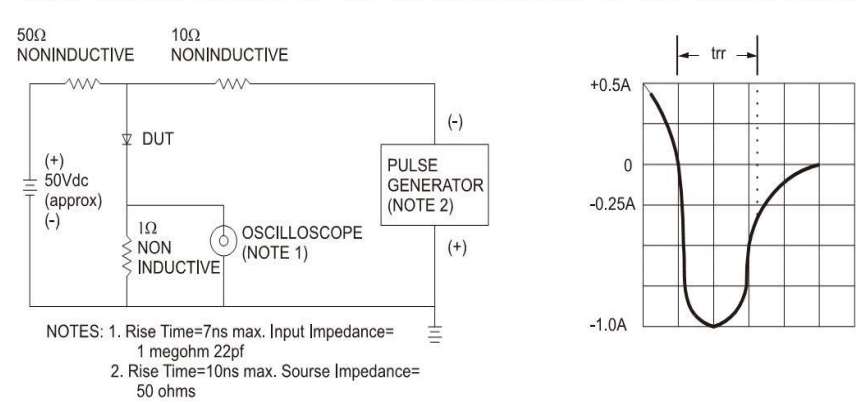
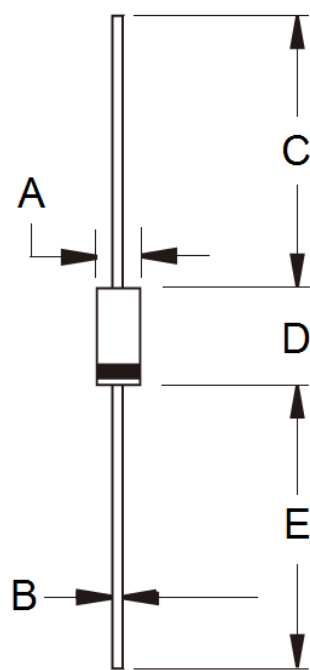


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 2.00      | 2.70 | 0.079       | 0.106 |
| B    | 0.71      | 0.86 | 0.028       | 0.034 |
| C    | 25.40     | -    | 1.000       | -     |
| D    | 4.20      | 5.20 | 0.165       | 0.205 |
| E    | 25.40     | -    | 1.000       | -     |

MARKING DIAGRAM



P/N =

Specific Device Code

G =

Green Compound

YWW =

Date Code

F =

Factory Code

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