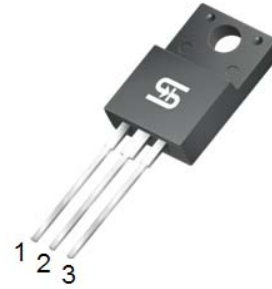


## 20A, 200V - 600V Isolated Ultra Fast Rectifiers

### FEATURES

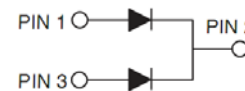
- High efficiency, low VF
- High current capability
- High reliability
- High surge current capability
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



**ITO-220AB**

### DESCRIPTION

- UGF200xG series are ideal devices for free wheeling function in switching mode power supply and high frequency DC/DC converters
- UGF200xG series: their low stored charge and ultrafast soft recovery minimizes ringing and electrical noise in power switching circuits reducing power loss



### MECHANICAL DATA

**Case:** ITO-220AB

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:** 5 in-lbs maximum

**Weight:** 1.7g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)    |                    |              |           |           |              |           |      |   |
|---|--------------------|--------------|-----------|-----------|--------------|-----------|------|---|
| PARAMETER   | SYMBOL             | UGF 2004G    | UGF 2005G | UGF 2006G | UGF 2007G    | UGF 2008G | UNIT |   |
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>   | 200          | 300       | 400       | 500          | 600       | V    |   |
| Maximum RMS voltage   | V <sub>RMS</sub>   | 140          | 210       | 280       | 350          | 420       | V    |   |
| Maximum DC blocking voltage   | V <sub>DC</sub>    | 200          | 300       | 400       | 500          | 600       | V    |   |
| Maximum average forward rectified current   | I <sub>F(AV)</sub> | 20           |           |           |              |           |      | A |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load             | I <sub>FSM</sub>   | 150          |           |           |              |           |      | A |
| Maximum instantaneous forward voltage (Note 1)<br>I <sub>F</sub> = 10 A                         | V <sub>F</sub>     | 0.95         | 1.25      |           | 1.70         |           | V    |   |
| Maximum reverse current @ rated V <sub>R</sub><br>T <sub>J</sub> =25°C<br>T <sub>J</sub> =125°C | I <sub>R</sub>     | 5<br>100     |           |           |              |           | μA   |   |
| Maximum reverse recovery time (Note 2)  | t <sub>rr</sub>    | 20           |           |           | 25           |           | ns   |   |
| Typical thermal resistance  | R <sub>θJC</sub>   | 2            |           |           |              |           | °C/W |   |
| Operating junction temperature range  | T <sub>J</sub>     | - 55 to +175 |           |           | - 55 to +150 |           | °C   |   |
| Storage temperature range   | T <sub>STG</sub>   | - 55 to +175 |           |           | - 55 to +150 |           | °C   |   |

Note 1: Pulse Test with PW=300 μs, 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

| ORDERING INFORMATION |                 |              |                         |           |           |
|----------------------|-----------------|--------------|-------------------------|-----------|-----------|
| PART NO.             | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX (*) | PACKAGE   | PACKING   |
| UGF200xG (Note 1)    | H               | C0           | G                       | ITO-220AB | 50 / Tube |

Note 1: "xx" defines voltage from 200V (UGF2004G) to 600V (UGF2008G)

\*: Optional available

| EXAMPLE       |          |                 |              |                     |                                   |
|---------------|----------|-----------------|--------------|---------------------|-----------------------------------|
| PREFERRED P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                       |
| UGF2004GHC0G  | UGF2004G | H               | C0           | G                   | AEC-Q101 qualified Green compound |

**RATINGS AND CHARACTERISTICS CURVES**

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

FIG.1 FORWARD CURRENT DERATING CURVE

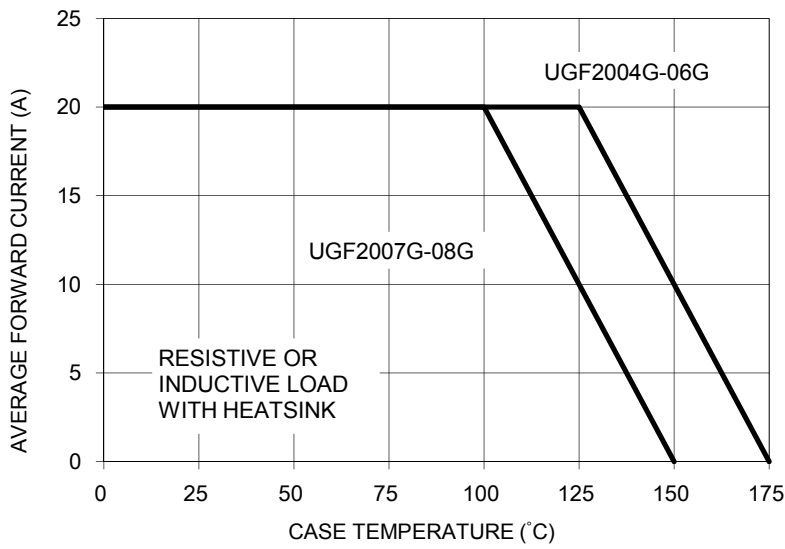


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

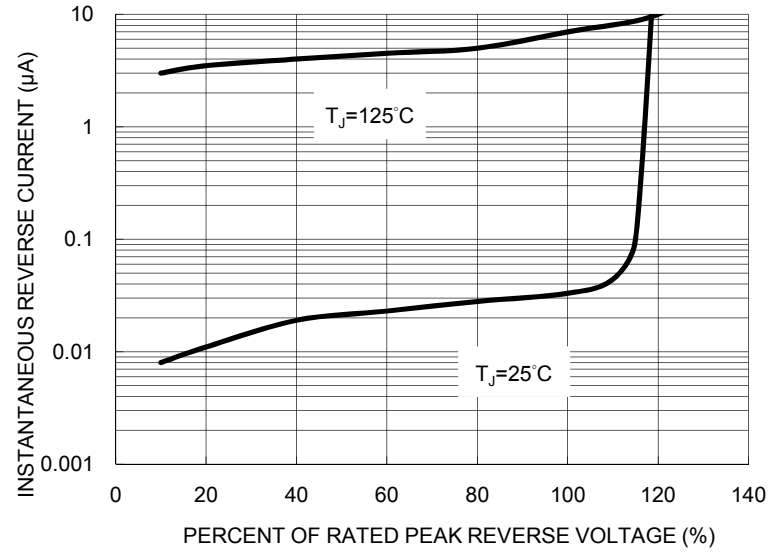


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

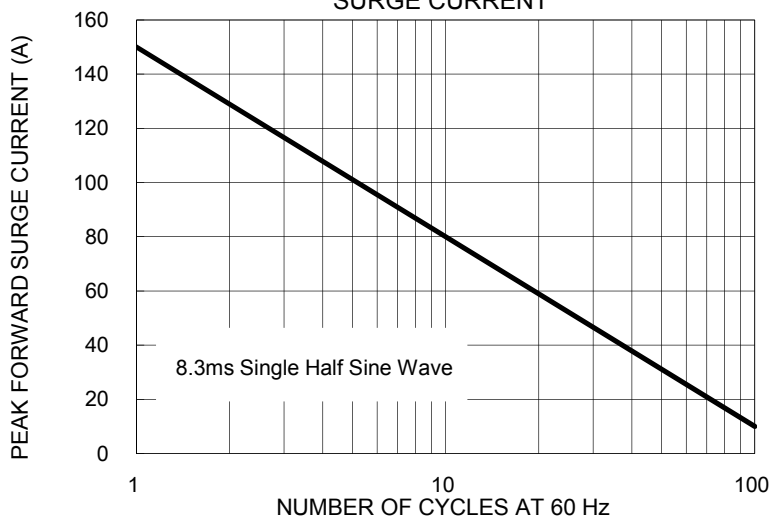


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

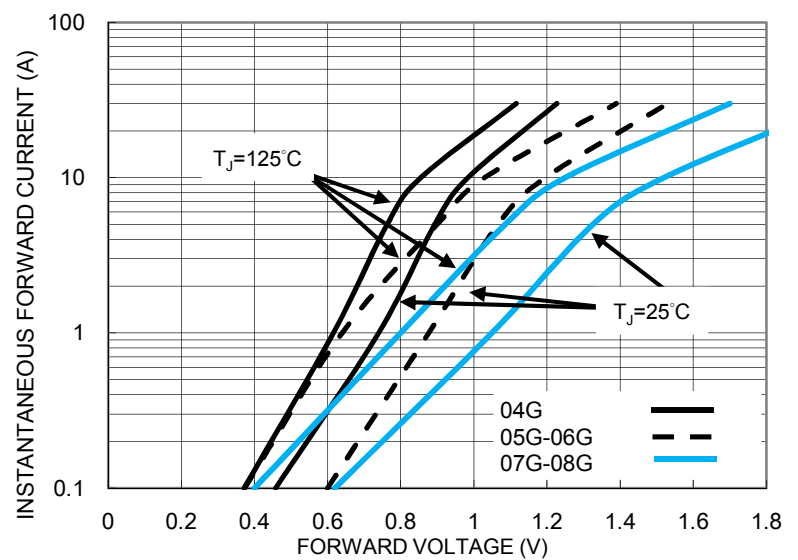
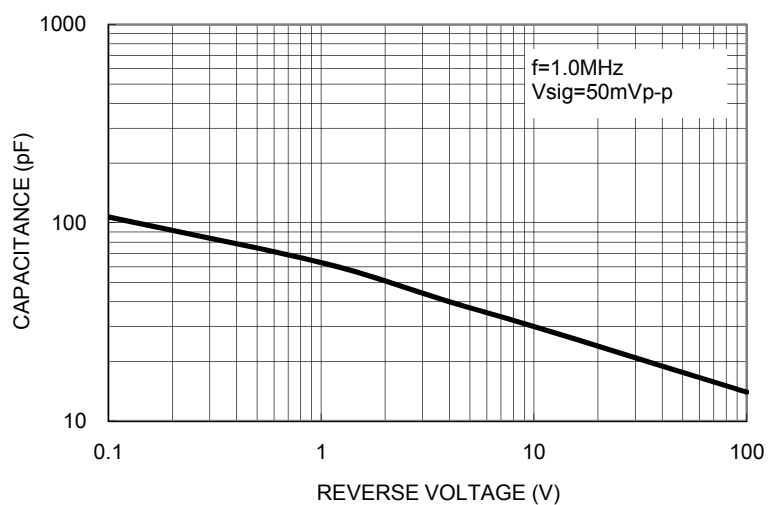
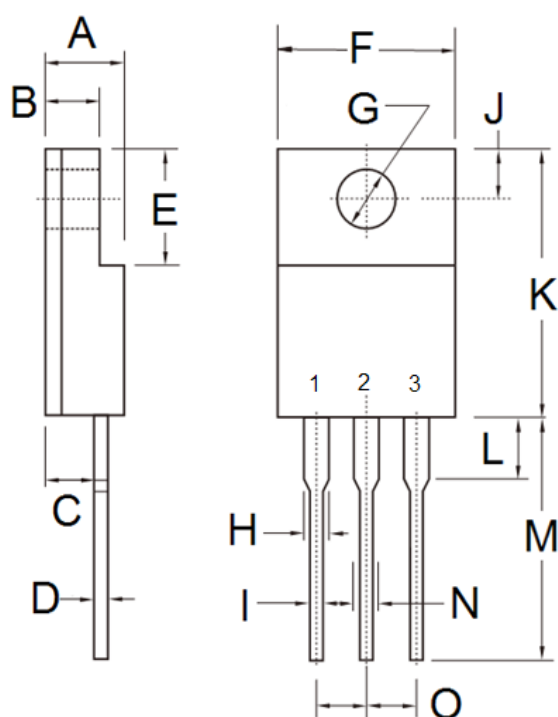


FIG. 5 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS

ITO-220AB



| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | 4.30      | 4.70  | 0.169       | 0.185 |
| B    | 2.50      | 3.16  | 0.098       | 0.124 |
| C    | 2.30      | 2.96  | 0.091       | 0.117 |
| D    | 0.46      | 0.76  | 0.018       | 0.030 |
| E    | 6.30      | 6.90  | 0.248       | 0.272 |
| F    | 9.60      | 10.30 | 0.378       | 0.406 |
| G    | 3.00      | 3.40  | 0.118       | 0.134 |
| H    | 0.95      | 1.45  | 0.037       | 0.057 |
| I    | 0.50      | 0.90  | 0.020       | 0.035 |
| J    | 2.40      | 3.20  | 0.094       | 0.126 |
| K    | 14.80     | 15.50 | 0.583       | 0.610 |
| L    | -         | 4.10  | -           | 0.161 |
| M    | 12.60     | 13.80 | 0.496       | 0.543 |
| N    | -         | 1.80  | -           | 0.071 |
| O    | 2.41      | 2.67  | 0.095       | 0.105 |

MARKING DIAGRAM



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

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