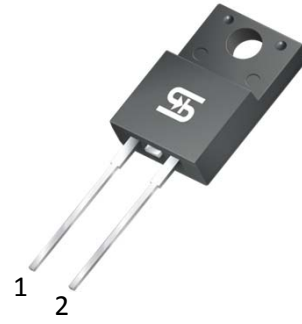


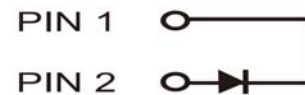
## 8A, 600V Isolated Ultra Fast Rectifier

### FEATURES

- Especially suited as boost diode on continuous mode power factor correctors
- Ideal Solution for hard switching condition
- High capability for high di/dt operation.  
Downsizing of mosfet and heatsink
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



**ITO-220AC**



### DESCRIPTION

Especially suited as free wheeling or boost diode in continuous mode power factor correctors and other power switching applications. The low stored charge and ultrafast soft recovery minimizes ringing and electrical noise in power switching circuits. The family drastically cuts losses in the associated MOSFET when run at high  $d_{IF}/dt$ .

### MECHANICAL DATA

**Case:** ITO-220AC

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:** 0.56 Nm max.

**Weight:** 1.7g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)   |                    |                 |     |      |
|--|--------------------|-----------------|-----|------|
| PARAMETER  | SYMBOL             | UGF8JD          |     | UNIT |
| Maximum repetitive peak reverse voltage  | V <sub>RRM</sub>   | 600             |     | V    |
| Maximum average forward rectified current  | I <sub>F(AV)</sub> | 8.0             |     | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load  | I <sub>FSM</sub>   | 100             |     | A    |
| Maximum instantaneous forward voltage (Note 1)<br>I <sub>F</sub> = 8 A   | V <sub>F</sub>     | 2.3             |     | 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>     | 0.5             |     | μA   |
|  |                    | 100             |     |      |
| Reverse recovery time<br>I <sub>F</sub> =0.5A, I <sub>RR</sub> =0.25A, I <sub>R</sub> =1A, T <sub>J</sub> =25°C<br>I <sub>F</sub> =1A, di <sub>F</sub> /dt=-50A/μs, V <sub>R</sub> =30V, T <sub>J</sub> =25°C              | t <sub>rr</sub>    | TYP             | MAX | ns   |
|  |                    | 13              | -   |      |
|  |                    | -               | 30  |      |
| Reverse recovery charges<br>I <sub>F</sub> =1A, di <sub>F</sub> /dt=-200A/μs, V <sub>R</sub> =400V, T <sub>J</sub> =125°C<br>I <sub>F</sub> =1A, di <sub>F</sub> /dt=-200A/μs, V <sub>R</sub> =400V, T <sub>J</sub> =125°C | Q <sub>rr</sub>    | TYP             | MAX | nC   |
|  |                    | 90              | -   |      |
|  |                    | I <sub>RM</sub> | 5.5 |      |
| Typical thermal resistance   | R <sub>θJC</sub>   | 4               |     | °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=300 μs, 1% duty cycle

| ORDERING INFORMATION |                 |              |                         |           |           |
|----------------------|-----------------|--------------|-------------------------|-----------|-----------|
| PART NO.             | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX (*) | PACKAGE   | PACKING   |
| UGF8JD               | H               | C0           | G                       | ITO-220AC | 50 / Tube |

\*: Optional available

| EXAMPLE     |          |                 |              |                     |                                   |
|-------------|----------|-----------------|--------------|---------------------|-----------------------------------|
| EXAMPLE P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                       |
| UGF8JDHC0G  | UGF8JD   | 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

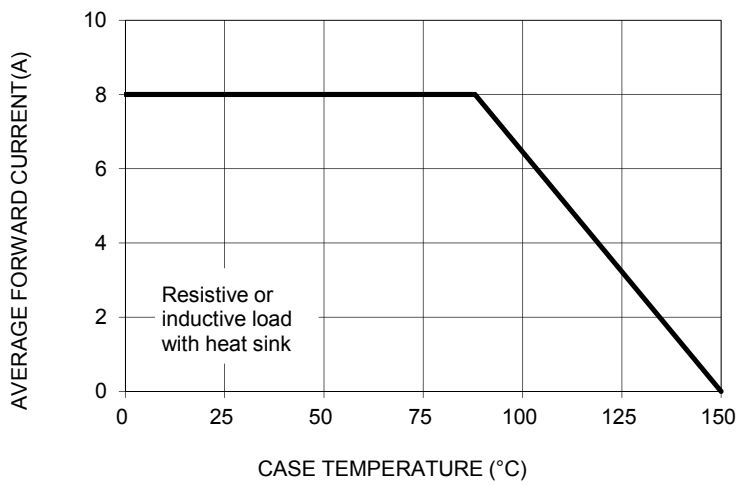


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

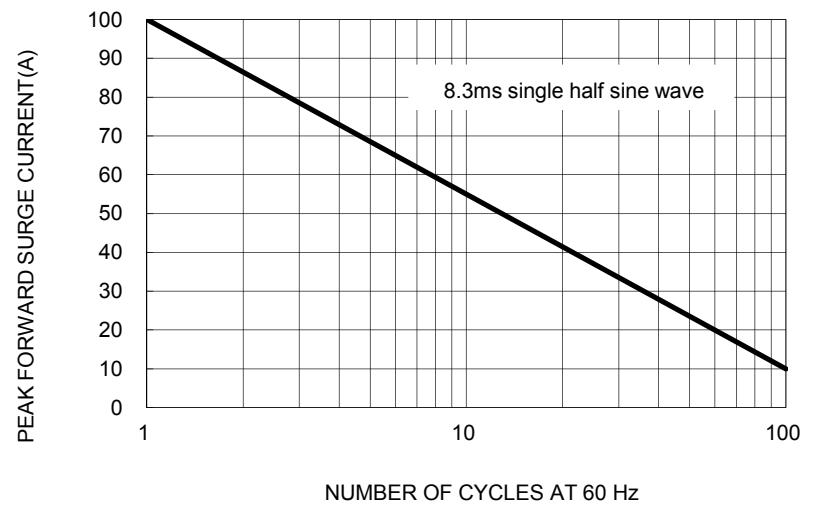


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

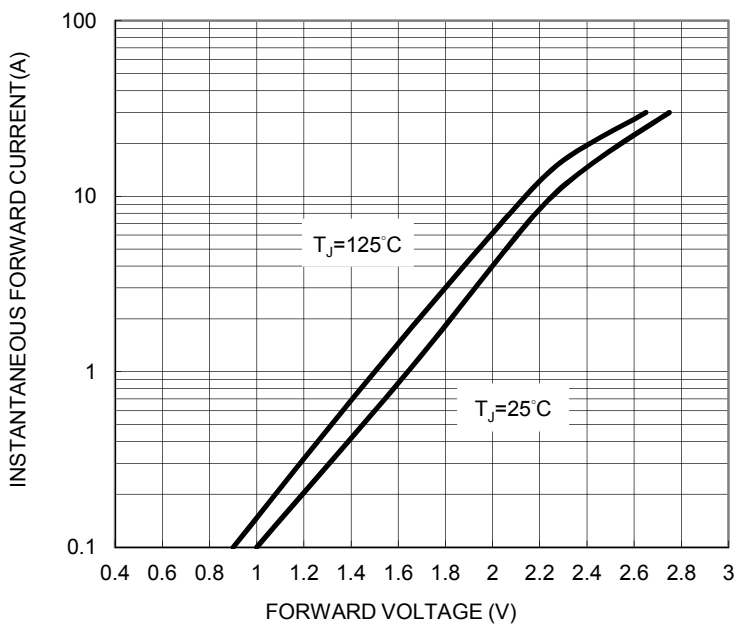


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

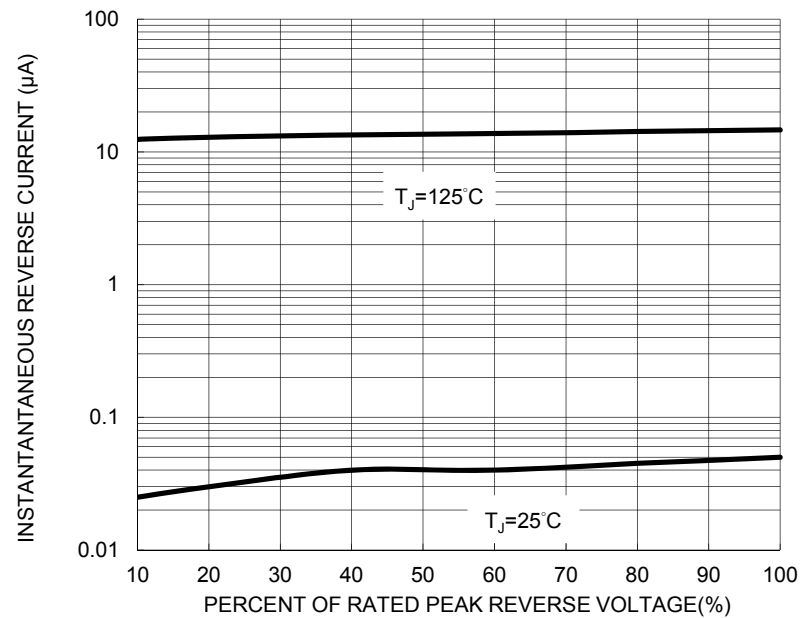
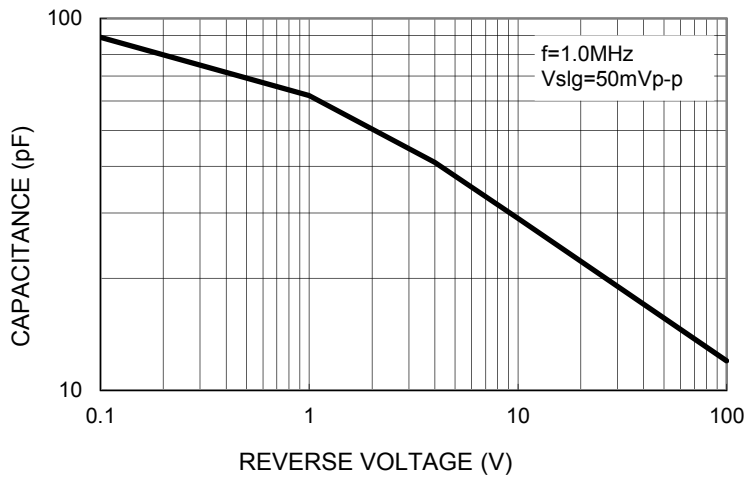
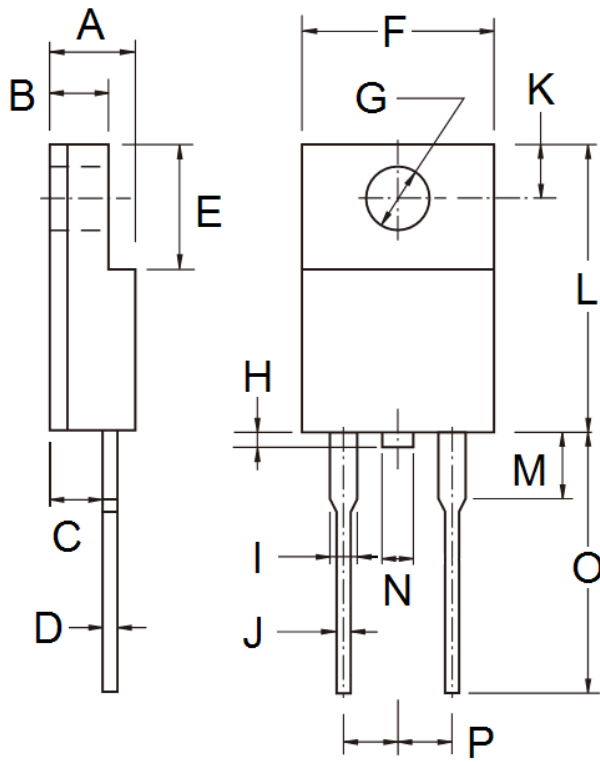


FIG. 5 TYPICAL JUNCTION CAPACITANCE

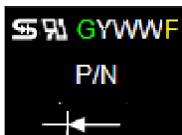


PACKAGE OUTLINE DIMENSIONS  
ITO-220AC



| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | 4.30      | 4.70  | 0.169       | 0.185 |
| B    | 2.50      | 3.10  | 0.098       | 0.122 |
| C    | 2.30      | 2.90  | 0.091       | 0.114 |
| 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    | 0.00      | 1.60  | 0.000       | 0.063 |
| I    | 0.95      | 1.45  | 0.037       | 0.057 |
| J    | 0.50      | 0.90  | 0.020       | 0.035 |
| K    | 2.40      | 3.20  | 0.094       | 0.126 |
| L    | 14.80     | 15.50 | 0.583       | 0.610 |
| M    | -         | 4.10  | -           | 0.161 |
| N    | -         | 1.80  | -           | 0.071 |
| O    | 12.60     | 13.80 | 0.496       | 0.543 |
| P    | 4.95      | 5.20  | 0.195       | 0.205 |

MARKING DIAGRAM



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

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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