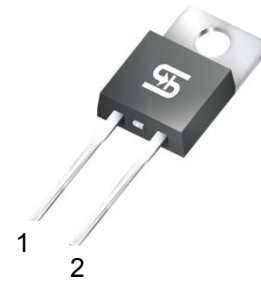


## 15A, 1200V Super Fast Power Rectifier

### FEATURES

- Superfast, soft recovery characteristics
- High junction temperature up to 175°C
- Negligible leakage sustain the high operation temperature
- Planar passivated for voltage ruggedness and reliability
- Very low stored charge and its soft recovery minimize ringing and electronica noise to reduce power loss in associated MOSFET or IGBT
- High capability for high di/dt operation.
- 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



**TO-220AC**



### TYPICAL APPLICATIONS

Ideal solution used as freewheeling diodes , features extremely low peak recovery current helping to significantly reduce snubbing, and lower switching losses in IGBT, especially as heavy duty applications demanding long term reliability.

Such as inverters , Uninterrupted Power Supply, motor drive and other mission-critical systems where the high frequency and high efficiency is needed.

The series with negligible leakage, is an immediately competitive advantage for high temperature environment.

### MECHANICAL DATA

**Case:** TO-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

**Weight:** 1.7g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)  |                    |              |     |      |
|---|--------------------|--------------|-----|------|
| PARAMETER   | SYMBOL             | UGA15120     |     | UNIT |
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>   | 1200         |     | V    |
| Maximum average forward rectified current   | I <sub>F(AV)</sub> | 15           |     | A    |
| Non-repetitive peak forward surge current<br>8.3ms single sine-wave   | I <sub>FSM</sub>   | 200          |     | A    |
| Maximum instantaneous forward voltage (Note 1)<br>I <sub>F</sub> = 15 A   | V <sub>F</sub>     | 2.9          |     | 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>     | TYP          | MAX | μA   |
|   |                    | 1            | 5   |      |
|   |                    | 5            | 100 |      |
| Reverse Recovery Time<br>T <sub>J</sub> =25°C, I <sub>F</sub> =0.5A, I <sub>R</sub> =1A, I <sub>RR</sub> =0.25A<br>T <sub>J</sub> =25°C, I <sub>F</sub> =1A, di <sub>F</sub> /dt= -100A/μs, V <sub>R</sub> =30V | t <sub>rr</sub>    | TYP          | MAX | ns   |
|   |                    | 48           | 58  |      |
|   |                    | -            | 65  |      |
| Typical thermal resistance  | R <sub>θJC</sub>   | 2            |     | °C/W |
| 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=300 μs, 1% duty cycle

| ORDERING INFORMATION |                 |              |                         |          |           |
|----------------------|-----------------|--------------|-------------------------|----------|-----------|
| PART NO.             | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX (*) | PACKAGE  | PACKING   |
| UGA15120             | H               | C0           | G                       | TO-220AC | 50 / Tube |

\*: Optional available

| EXAMPLE       |          |                 |              |                     |                                      |
|---------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| PREFERRED P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
| UGA15120HC0G  | UGA15120 | H               | C0           | G                   | AEC-Q101 qualified<br>Green compound |

**RATINGS AND CHARACTERISTICS CURVES**

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

FIG. 1 FORWARD CURRENT DERATING CURVE

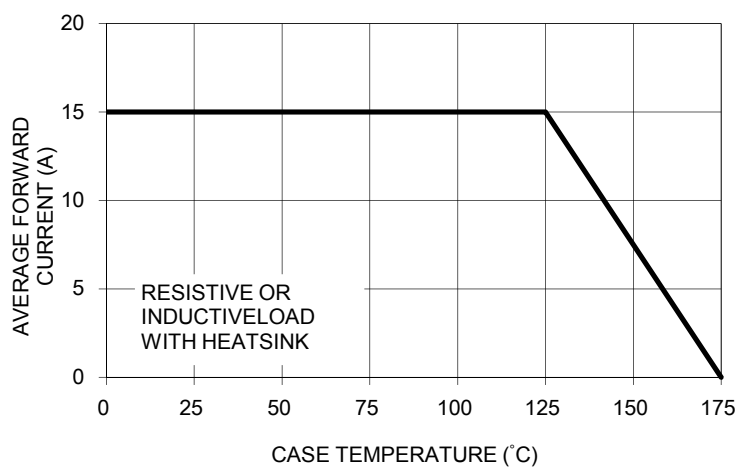


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

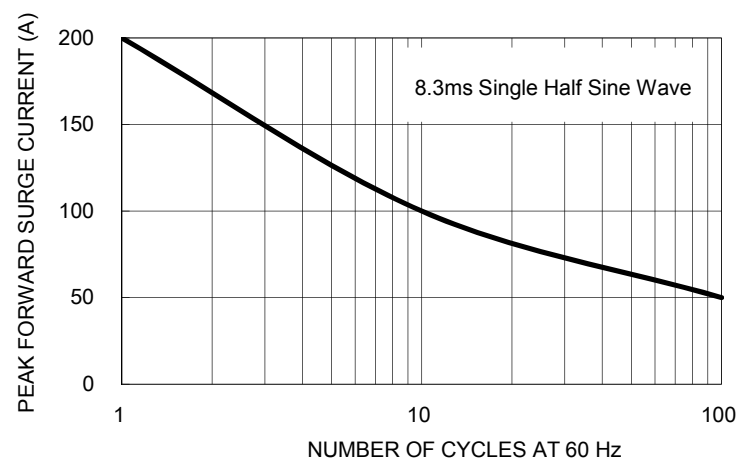


FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

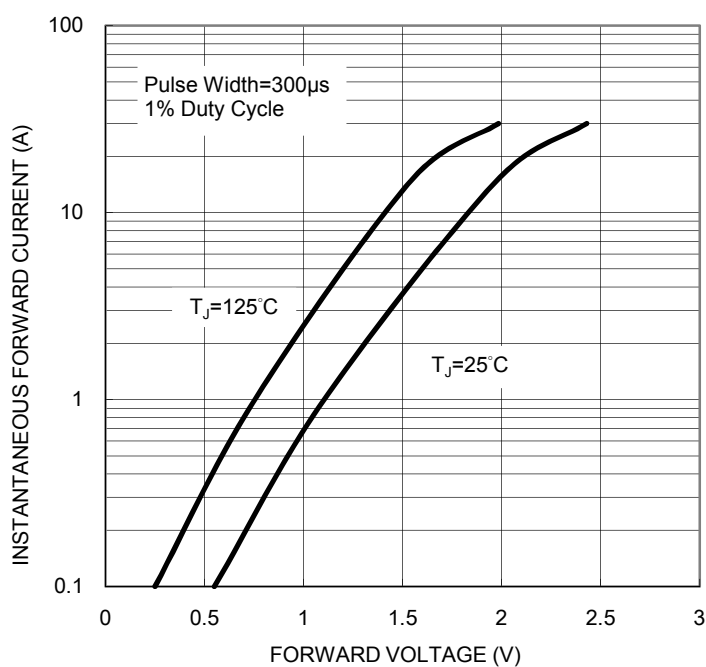


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

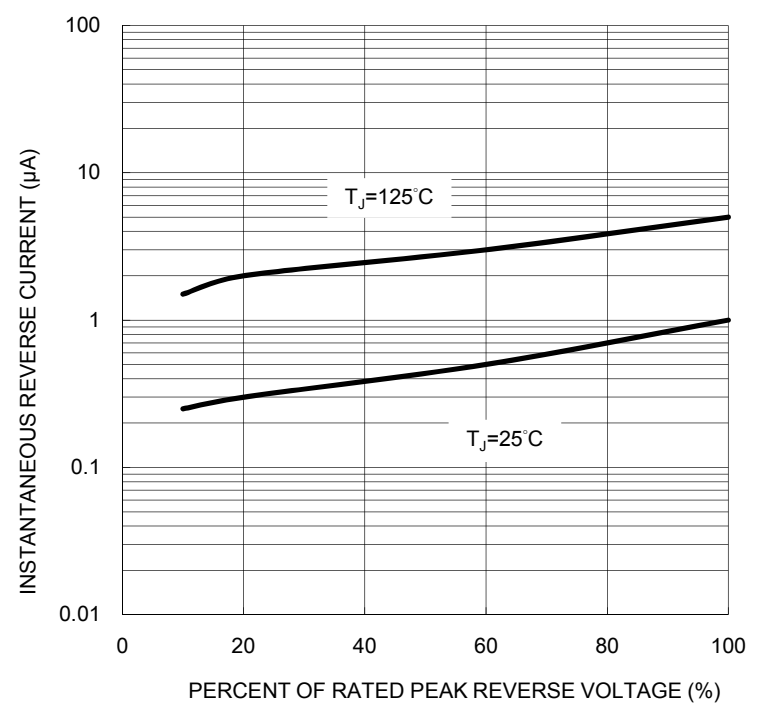
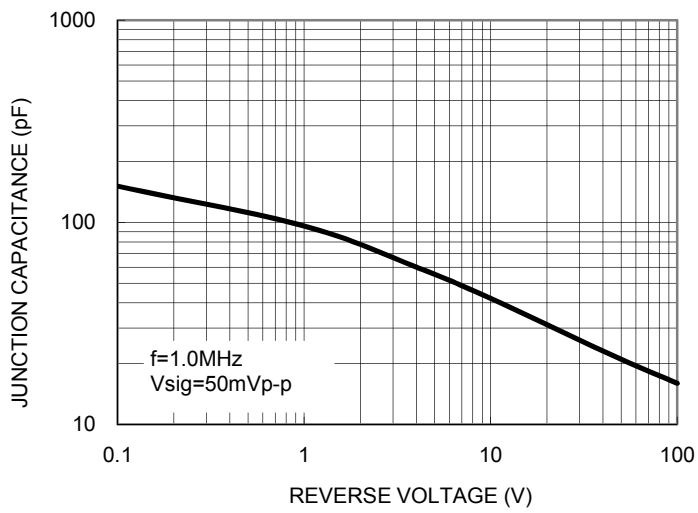
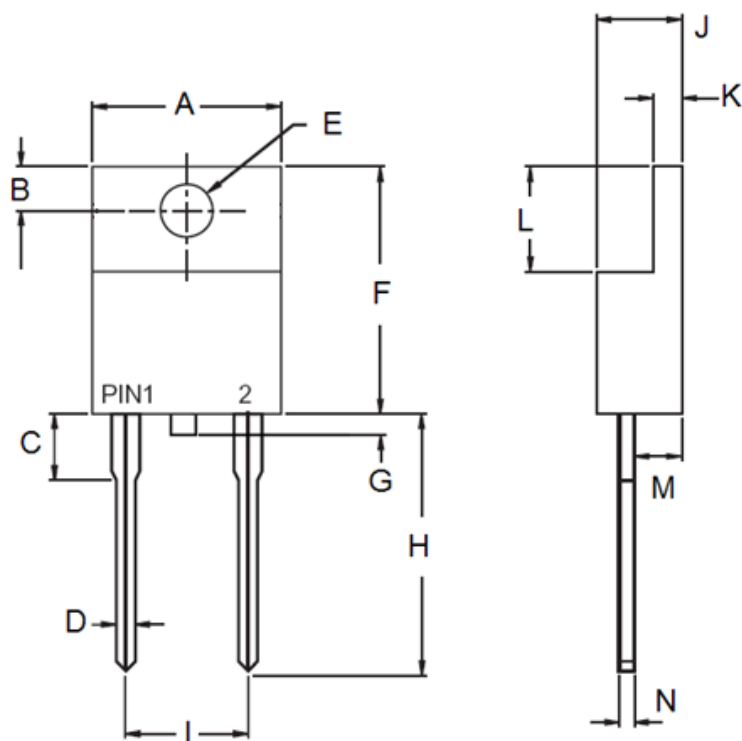


FIG. 5 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS  
**TO-220AC**



| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | -         | 10.50 | -           | 0.413 |
| B    | 2.62      | 3.44  | 0.103       | 0.135 |
| C    | 2.80      | 4.20  | 0.110       | 0.165 |
| D    | 0.68      | 0.94  | 0.027       | 0.037 |
| E    | 3.54      | 4.00  | 0.139       | 0.157 |
| F    | 14.60     | 16.00 | 0.575       | 0.630 |
| G    | 0.00      | 1.60  | 0.000       | 0.063 |
| H    | 13.19     | 14.79 | 0.519       | 0.582 |
| I    | 4.95      | 5.20  | 0.195       | 0.205 |
| J    | 4.42      | 4.76  | 0.174       | 0.187 |
| K    | 1.14      | 1.40  | 0.045       | 0.055 |
| L    | 5.84      | 6.86  | 0.230       | 0.270 |
| M    | 2.20      | 2.80  | 0.087       | 0.110 |
| N    | 0.35      | 0.64  | 0.014       | 0.025 |

MARKING DIAGRAM



- P/N = Marking 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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