

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 _A =25°C unless otherwise noted) | | | | | | | | |
|---|--------------------|--------------|-----------|-----------|--------------|-----------|------|------|
| PARAMETER | SYMBOL | UGF 2004G | UGF 2005G | UGF 2006G | UGF 2007G | UGF 2008G | UNIT | |
| Maximum repetitive peak reverse voltage | V _{RRM} | 200 | 300 | 400 | 500 | 600 | V | |
| Maximum RMS voltage | V _{RMS} | 140 | 210 | 280 | 350 | 420 | V | |
| Maximum DC blocking voltage | V _{DC} | 200 | 300 | 400 | 500 | 600 | V | |
| Maximum average forward rectified current | I _{F(AV)} | 20 | | | | | | A |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 150 | | | | | | A |
| Maximum instantaneous forward voltage (Note 1) I _F = 10 A | V _F | 0.95 | 1.25 | | 1.70 | | V | |
| Maximum reverse current @ rated V _R T _J =25°C T _J =125°C | I _R | 5 100 | | | | | | μA |
| Maximum reverse recovery time (Note 2) | t _{rr} | 20 | | | 25 | | | ns |
| Typical thermal resistance | R _{θJC} | 2 | | | | | | °C/W |
| Operating junction temperature range | T _J | - 55 to +175 | | | - 55 to +150 | | | °C |
| Storage temperature range | T _{STG} | - 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_F=0.5A, I_R=1.0A, I_{RR}=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_A=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE



FIG. 2 TYPICAL REVERSE CHARACTERISTICS

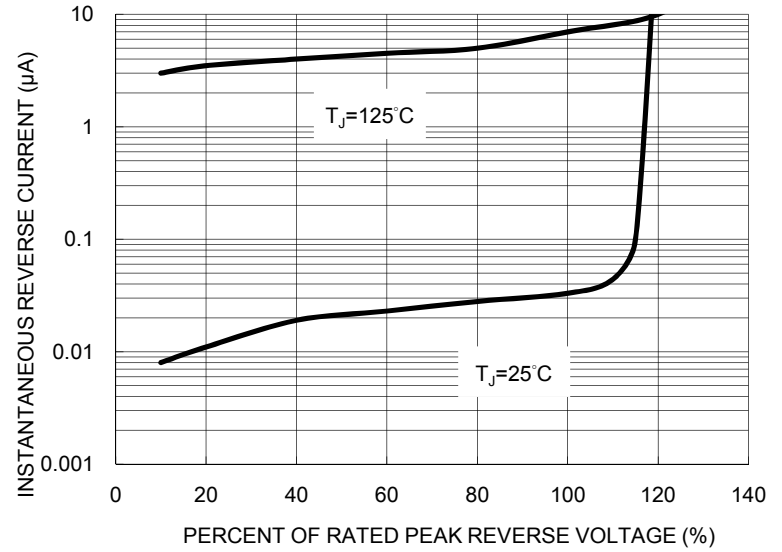


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



FIG. 4 TYPICAL FORWARD CHARACTERISTICS

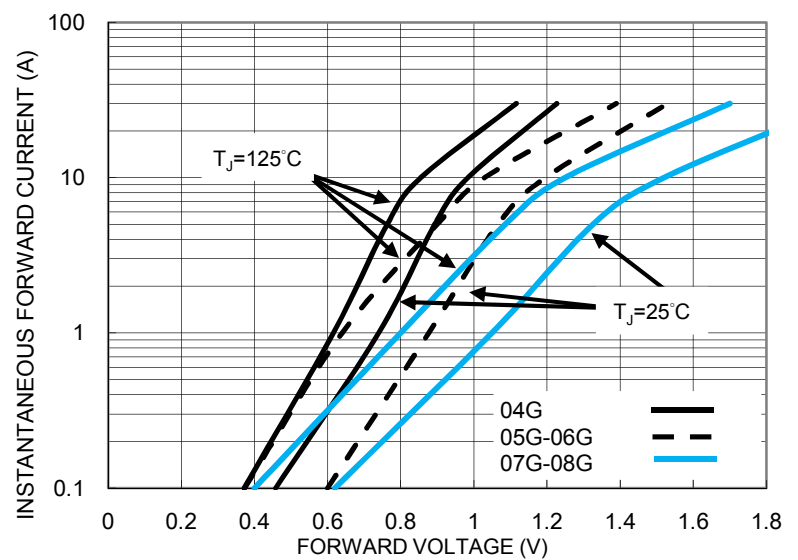


FIG. 5 TYPICAL JUNCTION CAPACITANCE



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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