

## 10A, 50V - 600V Isolated Glass Passivated Super Fast Rectifiers

### FEATURES

- High efficiency, low VF.
- High current capability
- High reliability
- High surge current capability
- Low power loss.
- 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**



### 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:** 0.56 Nm max. (5 in-lbs. max.)

**Weight:** 1.8 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)    |                    |              |             |             |             |             |             |             |             |      |
|---|--------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| PARAMETER   | SYMBOL             | SFF 1001 GA  | SFF 1002 GA | SFF 1003 GA | SFF 1004 GA | SFF 1005 GA | SFF 1006 GA | SFF 1007 GA | SFF 1008 GA | UNIT |
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>   | 50           | 100         | 150         | 200         | 300         | 400         | 500         | 600         | V    |
| Maximum RMS voltage   | V <sub>RMS</sub>   | 35           | 70          | 105         | 140         | 210         | 280         | 350         | 420         | V    |
| Maximum DC blocking voltage   | V <sub>DC</sub>    | 50           | 100         | 150         | 200         | 300         | 400         | 500         | 600         | V    |
| Maximum average forward rectified current   | I <sub>F(AV)</sub> | 10           |             |             |             |             |             |             |             | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load             | I <sub>FSM</sub>   | 125          |             |             |             |             |             |             |             | A    |
| Maximum instantaneous forward voltage (Note 1)<br>I <sub>F</sub> = 5A                           | V <sub>F</sub>     | 0.975        |             |             | 1.3         |             | 1.7         |             |             | 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>     | 10           |             |             |             | 400         |             |             |             | μA   |
| Maximum reverse recovery time (Note 2)  | t <sub>rr</sub>    | 35           |             |             |             |             |             |             |             | ns   |
| Typical junction capacitance (Note 3)   | C <sub>J</sub>     | 70           |             |             |             | 50          |             |             |             | pF   |
| Typical thermal resistance  | R <sub>θJC</sub>   | 8            |             |             |             |             |             |             |             | °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 DC.

| ORDERING INFORMATION  |                 |              |                     |           |           |
|-----------------------|-----------------|--------------|---------------------|-----------|-----------|
| PART NO.              | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | PACKAGE   | PACKING   |
| SFF100xGA<br>(Note 1) | H               | C0           | G                   | ITO-220AB | 50 / Tube |

Note 1: "x" defines voltage from 50V (SFF1001GA) to 600V (SFF1008GA)

| EXAMPLE       |           |                 |              |                     |                                      |
|---------------|-----------|-----------------|--------------|---------------------|--------------------------------------|
| PREFERRED P/N | PART NO.  | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
| SFF1008GAHC0  | SFF1008GA | H               | C0           | G                   | AEC-Q101 qualified<br>Green compound |

**RATINGS AND CHARACTERISTICS CURVES**

( $T_A=25^\circ\text{C}$  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

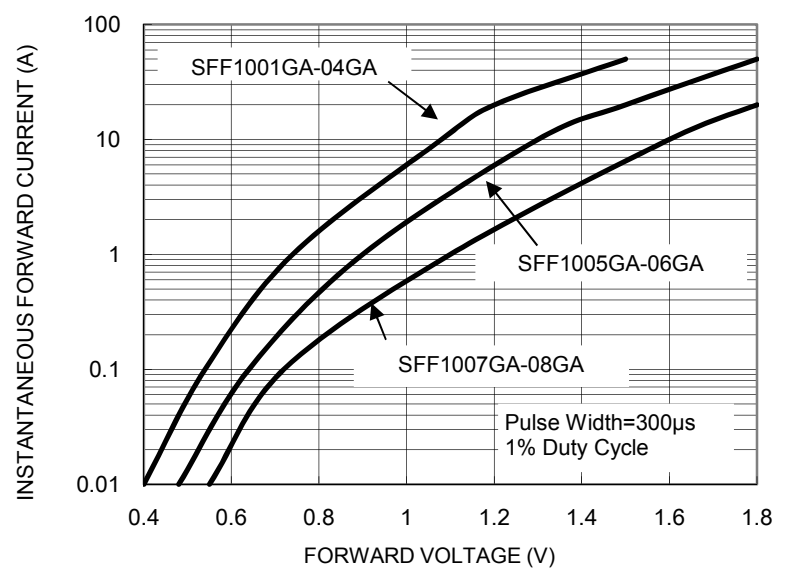
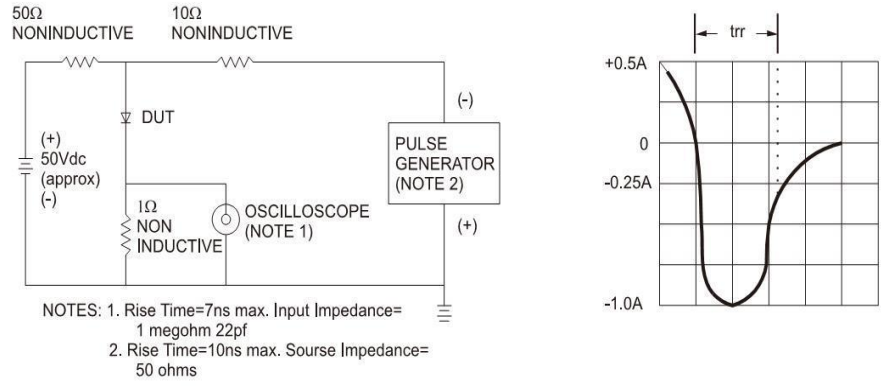


FIG. 5 TYPICAL JUNCTION CAPACITANCE



FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
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