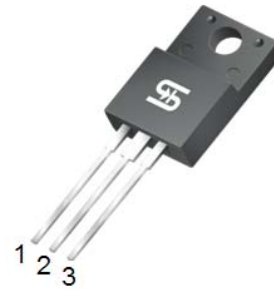


## 10A, 50V - 600V Isolated Glass Passivated Super Fast Rectifiers

### 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)

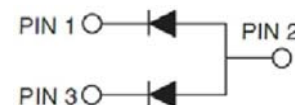
**Terminal:** Matte tin plated leads, solderable per JESD22-B102

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<br>1001<br>GA | SFF<br>1002<br>GA | SFF<br>1003<br>GA | SFF<br>1004<br>GA | SFF<br>1005<br>GA | SFF<br>1006<br>GA | SFF<br>1007<br>GA | SFF<br>1008<br>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<br>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<sub>A</sub>=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

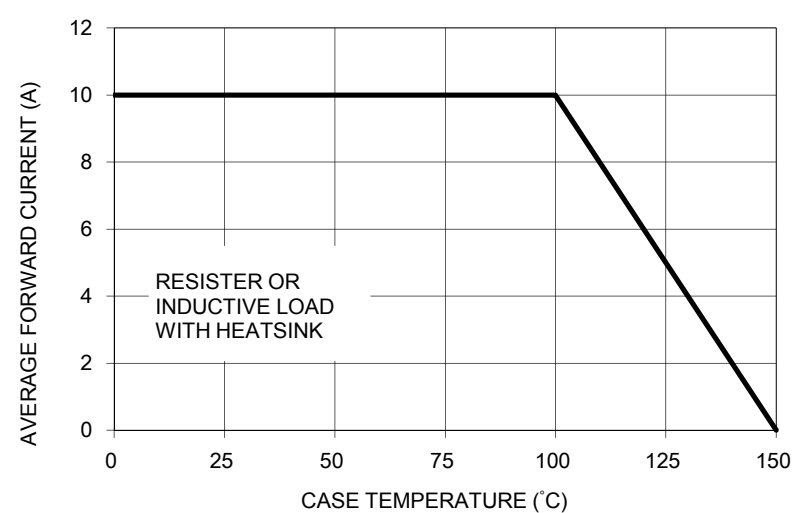


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

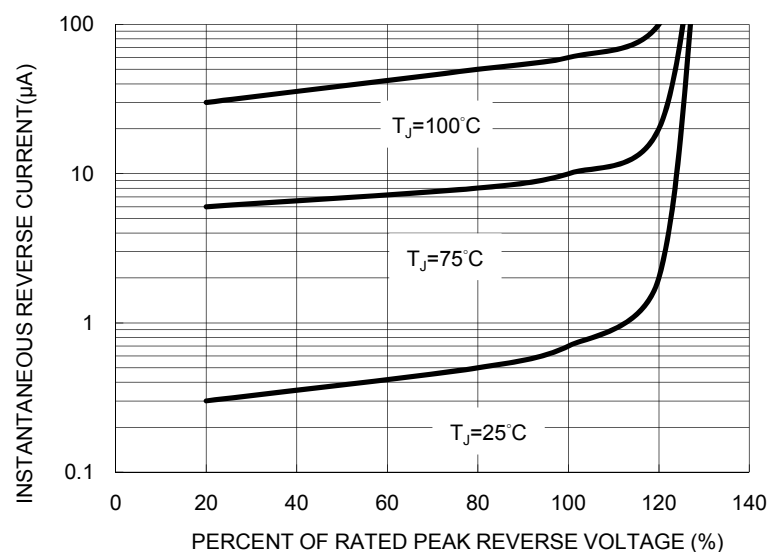


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

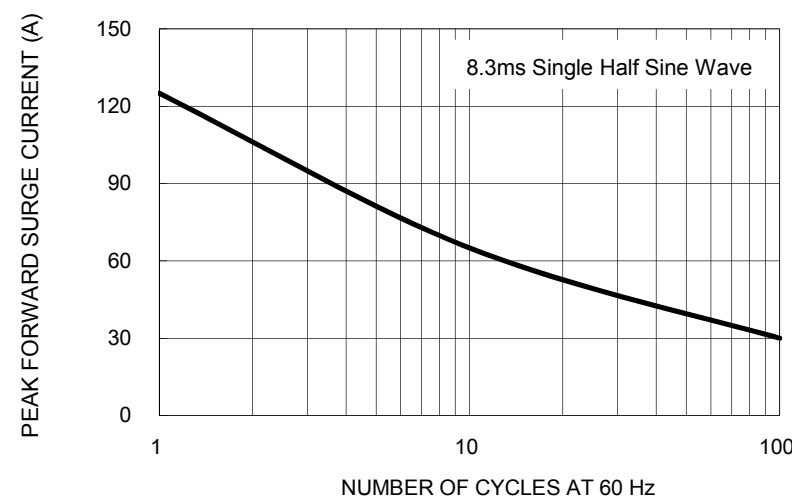


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

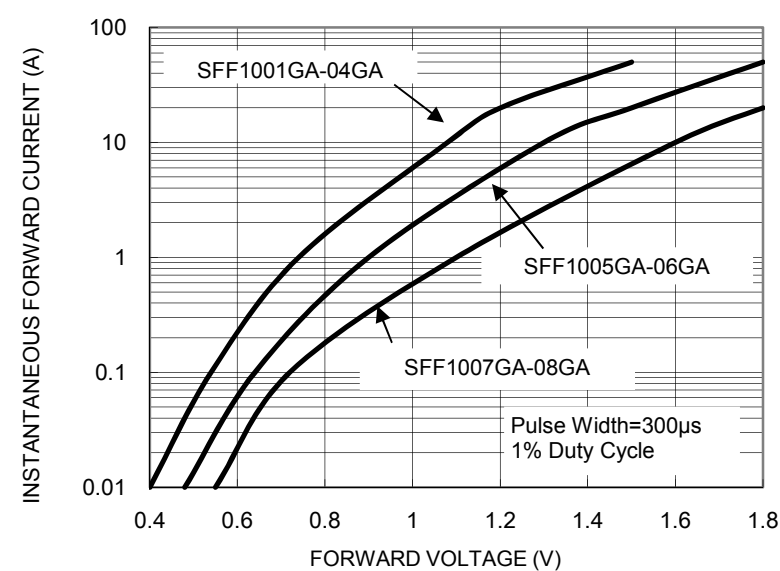


FIG. 5 TYPICAL JUNCTION CAPACITANCE

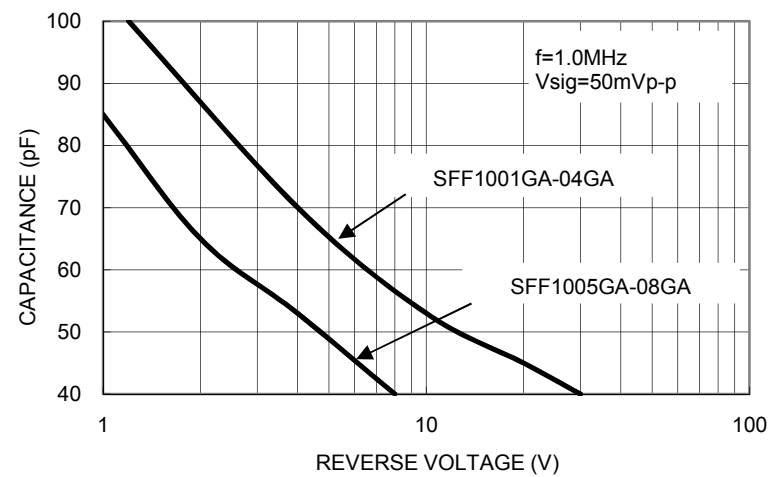
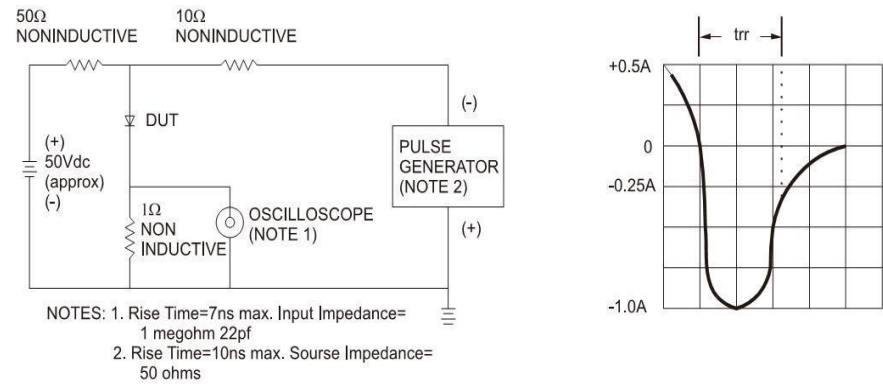
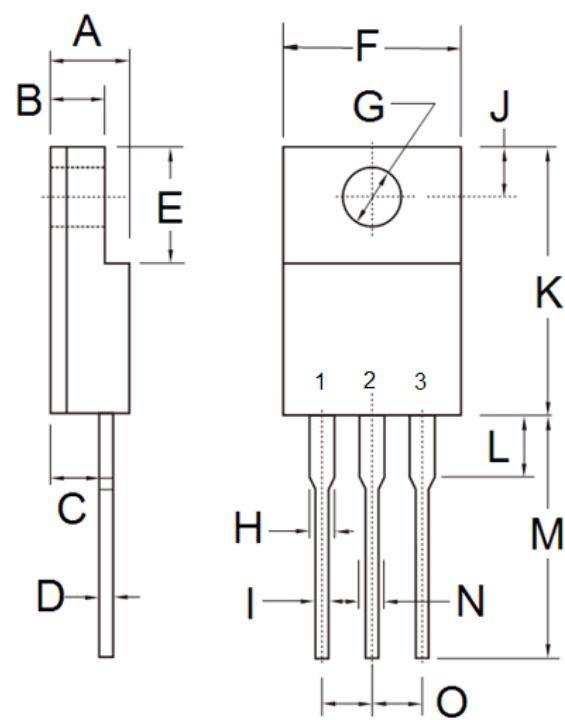


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

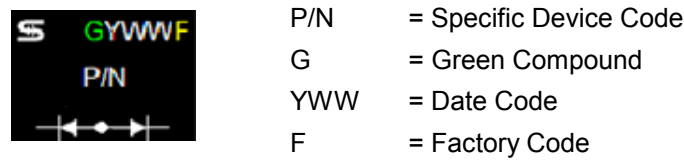


**PACKAGE OUTLINE DIMENSIONS**  
**ITO-220AB**



| 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**



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