

RoHS Compliant Product  
A suffix of "-C" specifies and halogen free

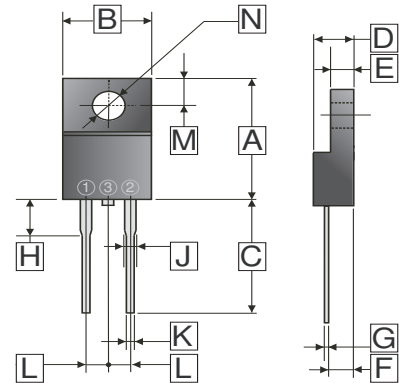
## FEATURES

- Fast switching for high efficiency
- Low forward voltage drop
- High current capability
- Low reverse leakage current
- High surge current capability

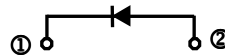
## MECHANICAL DATA

- Case : Molded plastic ITO-220A
- Epoxy : UL 94V-0 rate flame retardant
- Terminals : Solderable per MIL-STD-202 method 208
- Polarity : Color band denotes cathode
- Mounting position : Any
- Weight : 1.73 grams

### ITO-220A



| REF. | Millimeter |       | REF. | Millimeter |       |
|------|------------|-------|------|------------|-------|
|      | Min.       | Max.  |      | Min.       | Max.  |
| A    | 14.70      | 15.30 | H    | 3.50       | 3.90  |
| B    | 9.50       | 10.50 | J    | 1.10       | 1.50  |
| C    | 13.00      | -     | K    | 0.50       | 0.90  |
| D    | 4.30       | 4.70  | L    | 2.44       | 2.64  |
| E    | 2.50       | 3.10  | M    | 2.50       | 2.90  |
| F    | 2.40       | 2.80  | N    | φ 3.1      | φ 3.4 |
| G    | 0.30       | 0.70  |      |            |       |



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, de-rate current by 20%.)

| Parameters                                                                                       |                       | Symbol                            | Part Number |            |            | Unit |
|--------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------|-------------|------------|------------|------|
|                                                                                                  |                       |                                   | SFG08E200F  | SFG08E400F | SFG08E600F |      |
| Maximum Recurrent Peak Reverse Voltage                                                           |                       | V <sub>RRM</sub>                  | 200         | 400        | 600        | V    |
| Maximum RMS Voltage                                                                              |                       | V <sub>RMS</sub>                  | 140         | 280        | 420        | V    |
| Maximum DC Blocking Voltage                                                                      |                       | V <sub>DC</sub>                   | 200         | 400        | 600        | V    |
| Maximum Average Forward Rectified Current T <sub>C</sub> =100°C                                  |                       | I <sub>F(AV)</sub>                | 8.0         |            |            | A    |
| Peak Forward Surge Current,8.3ms single Half sine-wave superimposed on rated load (JEDEC method) |                       | I <sub>FSM</sub>                  | 125         |            |            | A    |
| Maximum Instantaneous Forward Voltage @ 8.0A                                                     |                       | V <sub>F</sub>                    | 0.95        | 1.25       | 2.4        | V    |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                                          | T <sub>J</sub> =25°C  | I <sub>R</sub>                    | 10          |            |            | μA   |
|                                                                                                  | T <sub>J</sub> =125°C |                                   | 250         |            |            |      |
| Maximum Reverse Recovery Time <sup>1</sup>                                                       |                       | T <sub>RR</sub>                   | 25          |            |            | nS   |
| Typical Junction Capacitance <sup>2</sup>                                                        |                       | C <sub>J</sub>                    | 85          |            | 50         | pF   |
| Typical Thermal Resistance <sup>3</sup>                                                          |                       | R <sub>θJC</sub>                  | 5.0         |            |            | °C W |
| Operating Junction and Storage Temperature Range                                                 |                       | T <sub>J</sub> , T <sub>STG</sub> | -55~150     |            |            | °C   |

Notes :

1. Reverse recovery test conditions  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.
3. Thermal Resistance junction to case.

## RATINGS AND CHARACTERISTICS CURVE

FIG.1 - FORWARD CURRENT DERATING CURVE

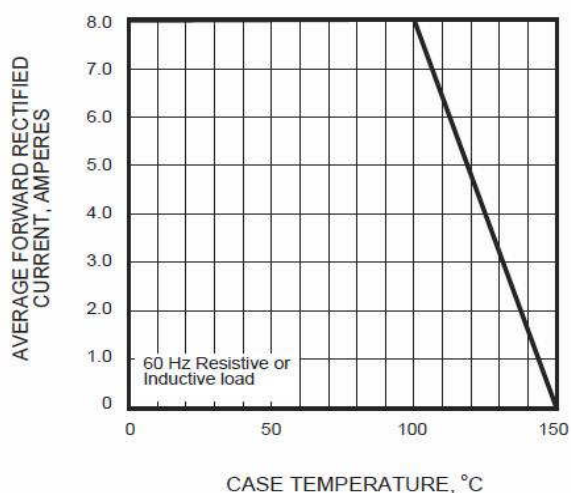


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

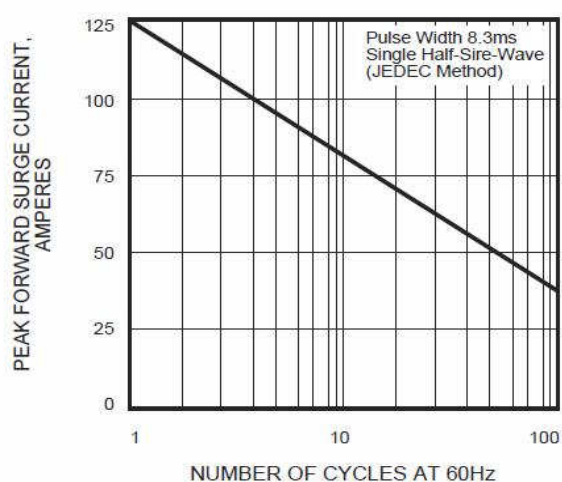


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

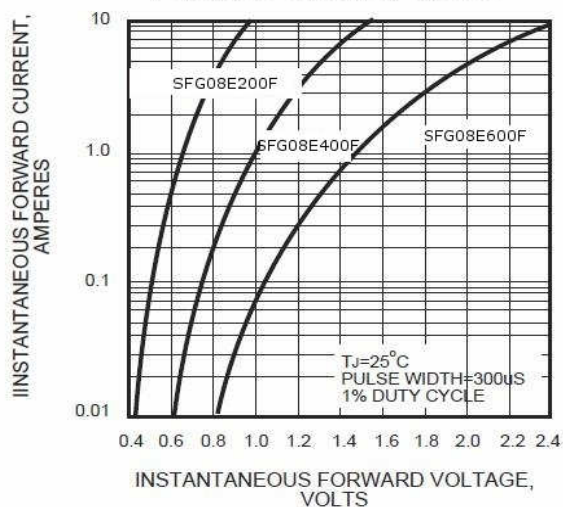


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

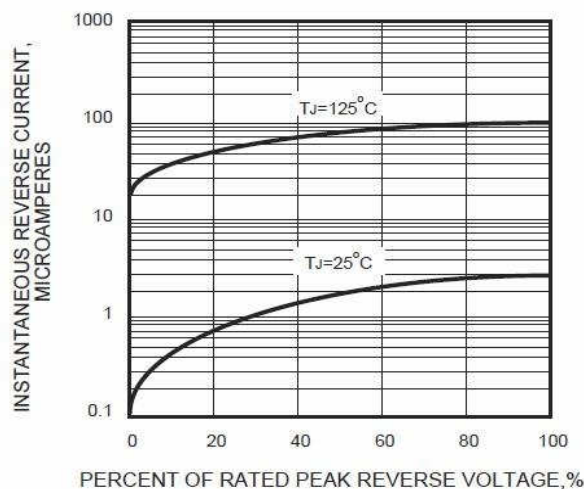
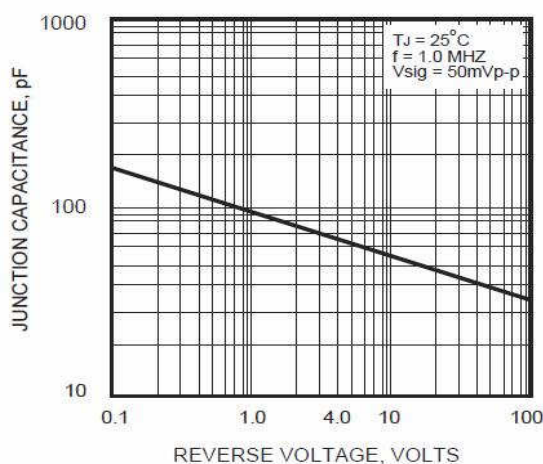


FIG.5 - TYPICAL JUNCTION CAPACITANCE



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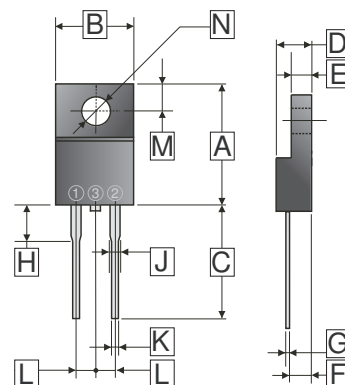
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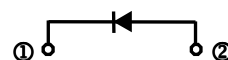
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ITO-220A



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| C    | 13.00 Min  |       | K    | 0.50       | 0.90  |
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| E    | 2.50       | 3.10  | M    | 2.50       | 2.90  |
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## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, de-rate current by 20%.)

| Parameters                                                                                       |                       | Symbol                            | Part Number |            |            | Unit |
|--------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------|-------------|------------|------------|------|
|                                                                                                  |                       |                                   | SFG10S200F  | SFG10S400F | SFG10S600F |      |
| Maximum Recurrent Peak Reverse Voltage                                                           |                       | V <sub>RRM</sub>                  | 200         | 400        | 600        | V    |
| Maximum RMS Voltage                                                                              |                       | V <sub>RMS</sub>                  | 140         | 280        | 420        | V    |
| Maximum DC Blocking Voltage                                                                      |                       | V <sub>DC</sub>                   | 200         | 400        | 600        | V    |
| Maximum Average Forward Rectified Current T <sub>C</sub> =100°C                                  |                       | I <sub>F(AV)</sub>                | 10.0        |            |            | A    |
| Peak Forward Surge Current,8.3ms single Half sine-wave superimposed on rated load (JEDEC method) |                       | I <sub>FSM</sub>                  | 200         | 175        |            | A    |
| Maximum Instantaneous Forward Voltage @ 10A                                                      |                       | V <sub>F</sub>                    | 0.95        | 1.3        | 1.7        | V    |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                                          | T <sub>J</sub> =25°C  | I <sub>R</sub>                    | 10          |            |            | μA   |
|                                                                                                  | T <sub>J</sub> =125°C |                                   | 250         |            |            |      |
| Maximum Reverse Recovery Time <sup>1</sup>                                                       |                       | T <sub>RR</sub>                   | 35          |            |            | nS   |
| Typical Junction Capacitance <sup>2</sup>                                                        |                       | C <sub>J</sub>                    | 65          |            |            | pF   |
| Typical Thermal Resistance <sup>3</sup>                                                          |                       | R <sub>θJC</sub>                  | 2.2         |            |            | °C W |
| Operating Junction and Storage Temperature Range                                                 |                       | T <sub>J</sub> , T <sub>STG</sub> | -55~150     |            |            | °C   |

Notes :

1. Reverse recovery test conditions  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .
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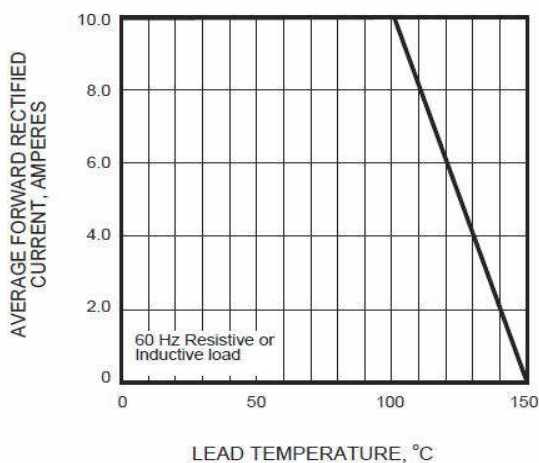


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

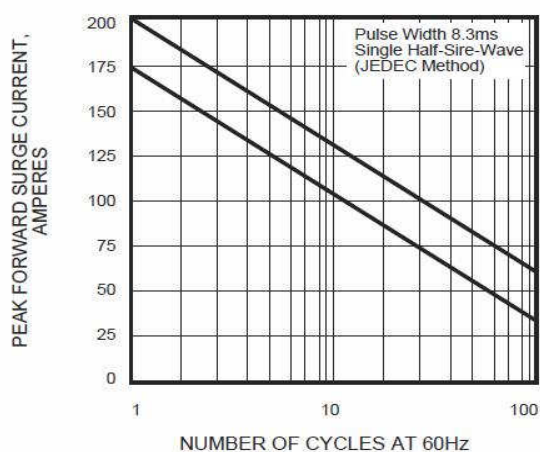


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

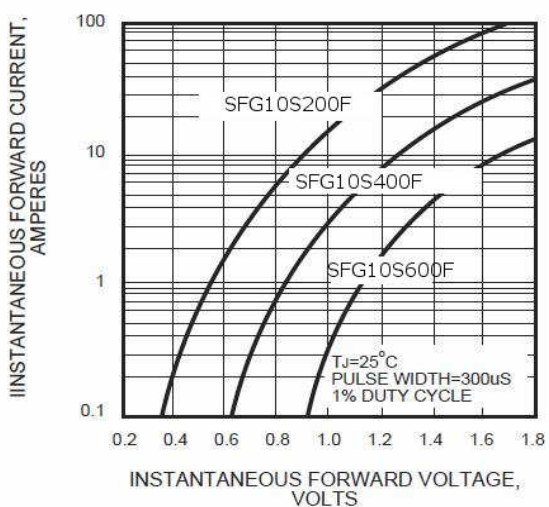


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

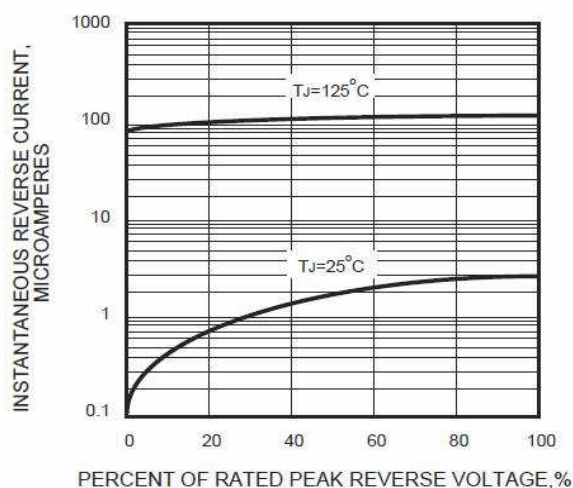


FIG.5 - TYPICAL JUNCTION CAPACITANCE

