

Features

- ✧ UL Recognized Flie # E-326243
- ✧ Isolated Plastic package.
- ✧ Low power loss, High efficiency.
- ✧ High current capability, Low VF.
- ✧ High reliability
- ✧ High surge current capability.
- ✧ Epitaxial construction.
- ✧ Guard-ring for transient protection.
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.



Mechanical Data

- ✧ Cases: ITO-220AC molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Terminals: Pure tin plated, lead free.Solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ High temperature soldering guaranteed: 260°C/10 seconds /.25", (6.35mm) from case.
- ✧ Weight: 1.73 grams
- ✧ Mounting torque: 5 in - 1bs. Max.

Ordering Information(example)

| Part No. | Package | Packing | Packing code | Green Compound Packing code |
|----------|-----------|-----------|--------------|-----------------------------|
| SRAF1020 | ITO-220AC | 50 / TUBE | D0 | D0G |

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number | Symbol | SRAF 1020 | SRAF 1030 | SRAF 1040 | SRAF 1050 | SRAF 1060 | SRAF 1090 | SRAF 1010 | SRAF 1015 | Units |
|--|-----------------|---------------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|-------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 90 | 100 | 150 | V |
| Maximum RMS Voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 63 | 70 | 105 | V |
| Maximum DC Blocking Voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 90 | 100 | 150 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 10 | | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 200 | | | | | | | | A |
| Maximum Instantaneous Forward Voltage (Note 1) @ 10 A | V_F | 0.55 | | 0.70 | | 0.85 | | 0.95 | | V |
| Maximum D.C. Reverse Current at Rated DC Blocking Voltage @ $T_A=25^\circ C$ @ $T_A=100^\circ C$ @ $T_A=125^\circ C$ | I_R | 0.5 | | | | 0.1 | | | | mA |
| | | 15 | | 10 | | - | | | | mA |
| | | - | | | | 5 | | | | mA |
| Typical Junction Capacitance (Note 2) | C_j | 420 | | 280 | | 165 | | | | pF |
| Typical Thermal Resistance | $R_{\theta JC}$ | 4 | | | | | | | | °C/W |
| Operating Junction Temperature Range | T_J | - 65 to + 125 | | | | - 65 to + 150 | | | | °C |
| Storage Temperature Range | T_{STG} | - 65 to + 150 | | | | | | | | °C |

Note1: Pulse Test: 300us Pulse Width, 1% Duty cycle

Note2: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (SRAF1020 THRU SRAF10150)

FIG.1- FORWARD CURRENT DERATING CURVE

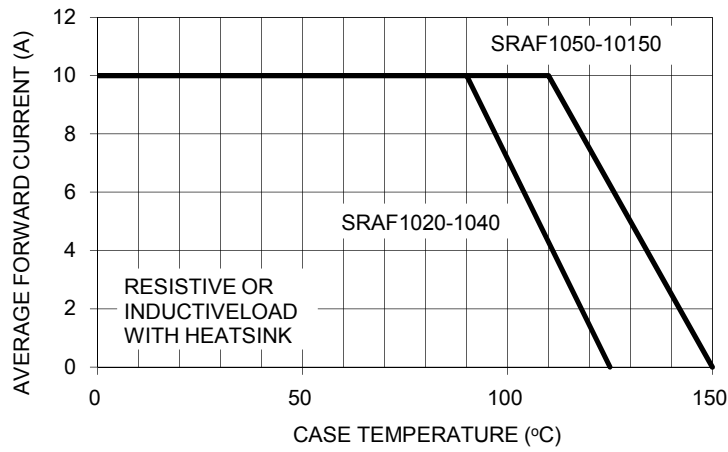


FIG. 2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

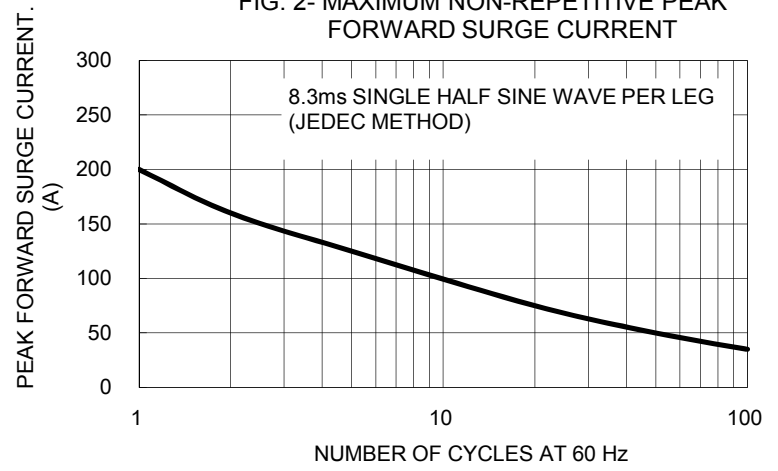


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

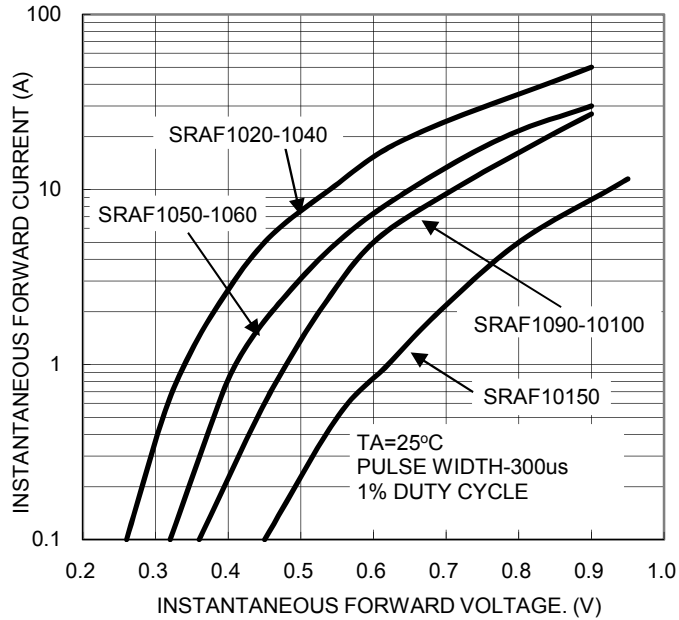


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

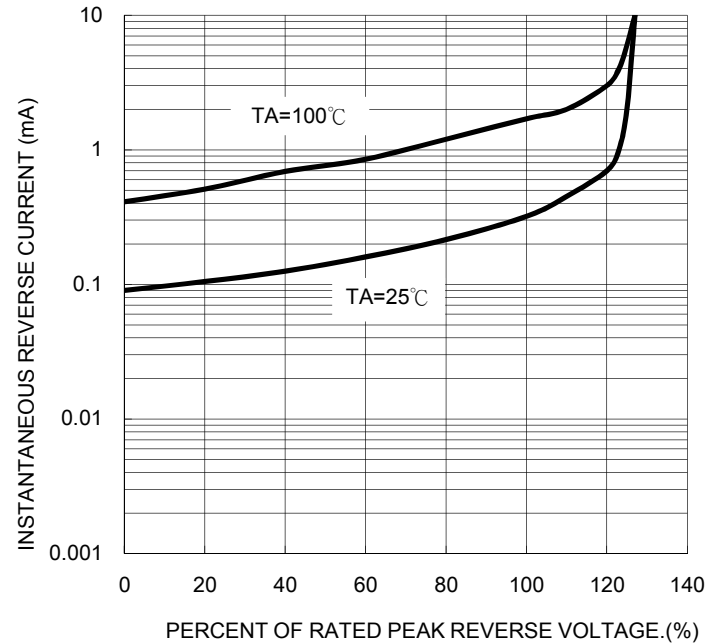


FIG. 5- TYPICAL JUNCTION CAPACITANCE

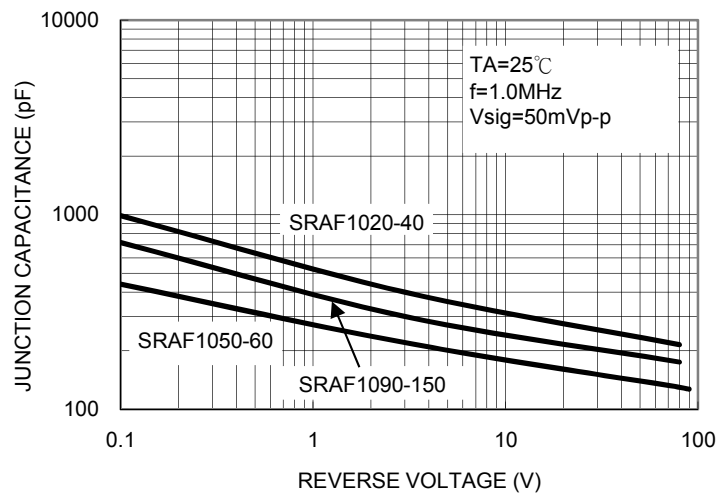
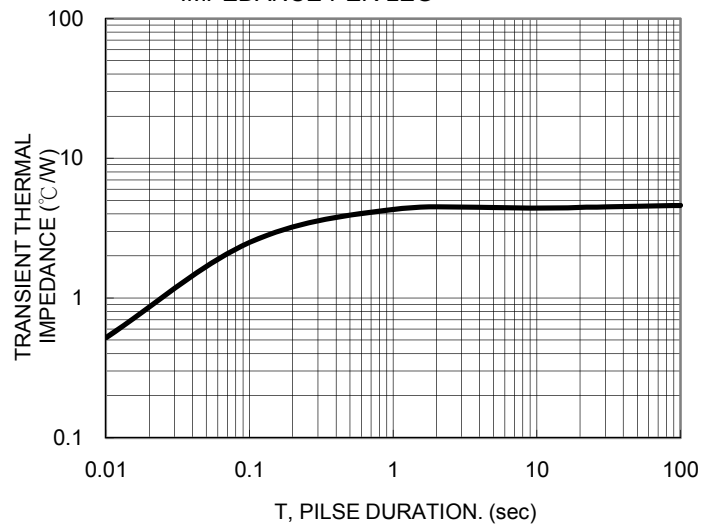


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

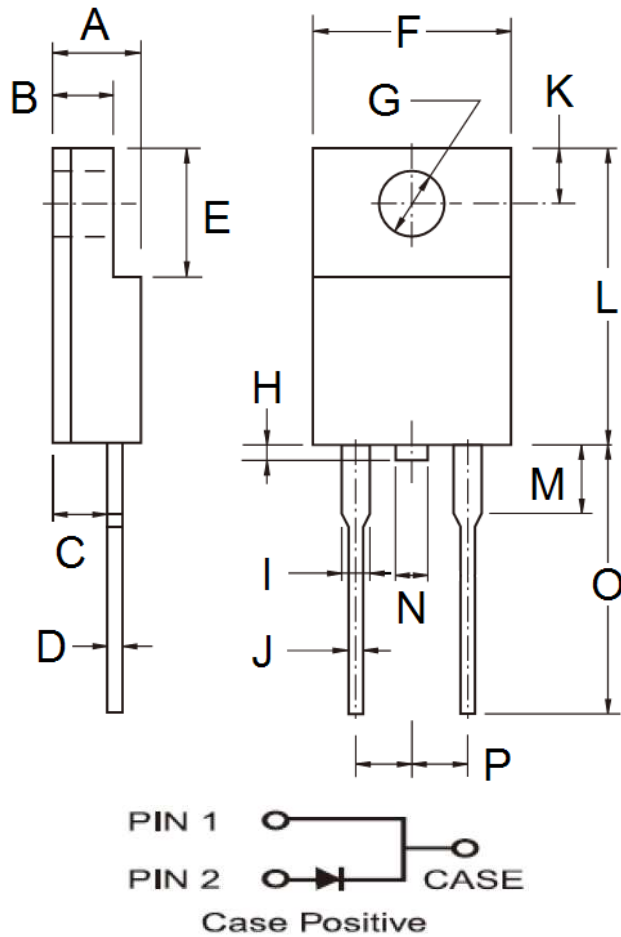


Ordering information

| Part No. | Package | BULK Packing | Packing code | Green Compound Packing code |
|----------|-----------|--------------|--------------|-----------------------------|
| SRAF10xx | ITO-220AC | 50 / TUBE | C0 | C0G |
| | ITO-220AC | 50 / TUBE | D0 | D0G |

Note: "xx" is Device Code from "20" thru "150".

Dimensions



| DIM. | Unit(mm) | | Unit(inch) | |
|------|----------|-------|------------|-------|
| | Min | Max | Min | Max |
| A | 4.30 | 4.70 | 0.169 | 0.185 |
| B | 2.50 | 3.10 | 0.098 | 0.122 |
| C | 2.30 | 2.90 | 0.091 | 0.114 |
| 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 | - | 1.60 | - | 0.063 |
| I | 0.95 | 1.45 | 0.037 | 0.057 |
| J | 0.50 | 0.90 | 0.020 | 0.035 |
| K | 2.40 | 3.20 | 0.094 | 0.126 |
| L | 14.80 | 15.50 | 0.583 | 0.610 |
| M | - | 4.10 | - | 0.161 |
| N | - | 1.80 | - | 0.071 |
| O | 12.60 | 13.80 | 0.496 | 0.543 |
| P | 4.95 | 5.20 | 0.195 | 0.205 |

Marking Diagram



P/N = Specific Device Code
 G = Green Compound
 YWW = Date Code