



SHENZHEN FAITH TECHNOLOGY CO.,LTD

SOFT RECOVERY RECTIFIER BRIDGE STACK

DBF408R

VOLTAGE RANGE

600 Volts

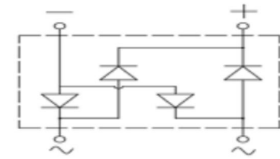
CURRENT

4.0 Ampere



Features

- Glass passivated chip
- Plastic package has underwrites laboratory flammability
- Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief, ideal for automated placement
- Glass Passivated chip junction
- High temperature soldering:250°C/10 second at terminals



Mechanical Data

- Case: JEDED DBF molded plastic over glass passivated chip
- Terminals: Solder plated, Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.0083 ounce, 0.234 grams

Maximum Ratings and Electrical Characteristics

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

| TYPE NUMBER | SYMBOLS | DBF408R | UNIT |
|--|---------------------------|-------------|---------------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 600 | Volts |
| Maximum RMS Voltage | V_{RMS} | 420 | Volts |
| Maximum DC Blocking Voltage | V_{DC} | 600 | Volts |
| Maximum Average Forward Rectified Current At $T_A=100^\circ\text{C}$ (NOTE 1) | $I_{(AV)}$ | 4.0 | Amps |
| Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method) | I_{FSM} | 150 | Amps |
| Maximum Instantaneous Forward Voltage at 4.0A | V_F | 1.7 | Volts |
| Maximum DC Reverse Current at rated DC blocking voltage at | $T_A = 25^\circ\text{C}$ | 5.0 | μA |
| | $T_A = 125^\circ\text{C}$ | 100 | |
| Maximum Reverse Recovery Time (NOTE 3) | T_{RR} | 28 | nS |
| Typical Junction Capacitance (NOTE 2) | C_J | 45 | pF |
| Typical Thermal Resistance (NOTE 1) | $R_{\theta JA}$ | 75 | $^\circ\text{C}/\text{W}$ |
| | $R_{\theta JL}$ | 33 | |
| Operating Junction Temperature | T_J | -55 to +150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | $^\circ\text{C}$ |

Notes:

1. Thermal Resistance test performed in accordance with JESD-51. Unit mounted on 15mm*12mm*1.6mm AL pad attach 195mm*110mm*10mm steel plate
2. Measured at 1.0MHz and applied reverse voltage of 4.0V.
3. Test conditions $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $IRR = 0.25\text{A}$.



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|---------------|------------|
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Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

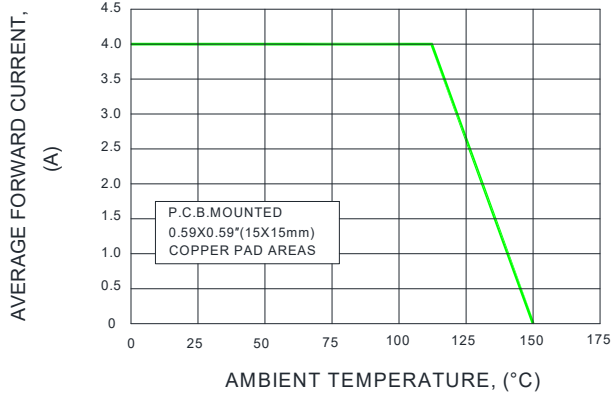


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

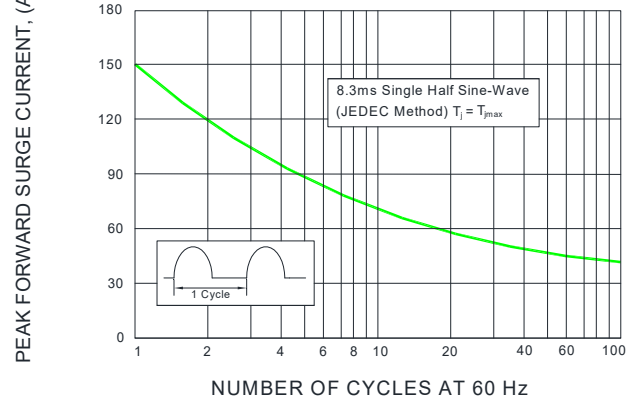


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

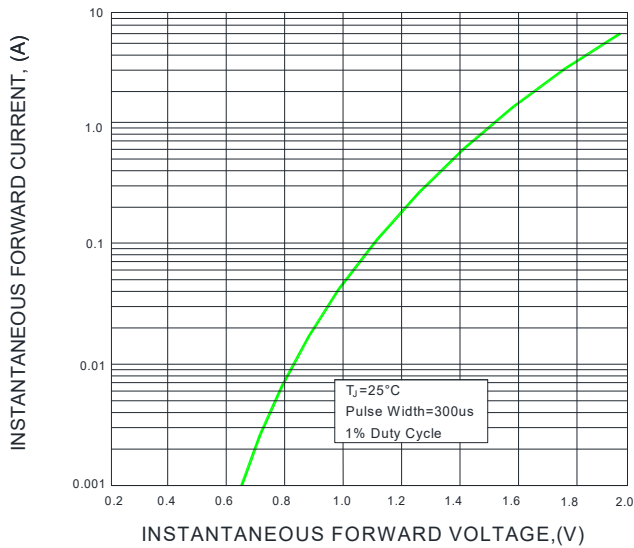


FIG.4-TYPICAL REVERSE CHARACTERISTICS

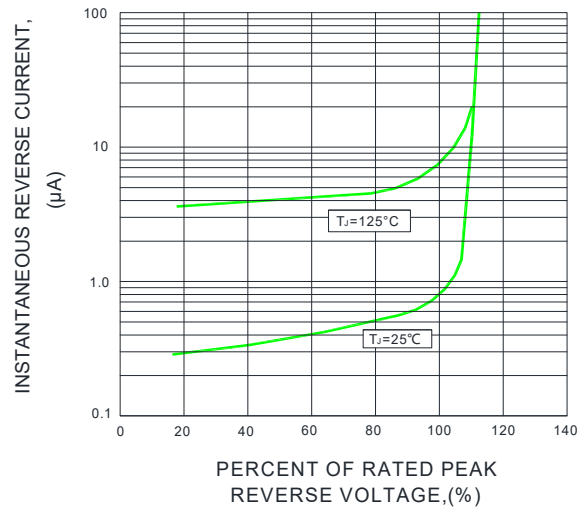


FIG.5-TYPICAL JUNCTION CAPACITANCE

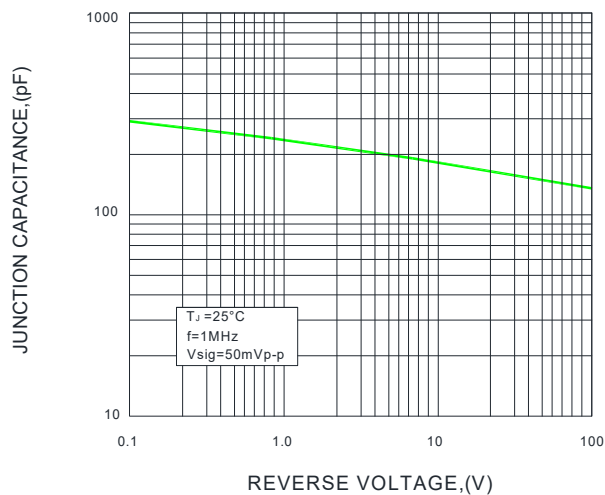
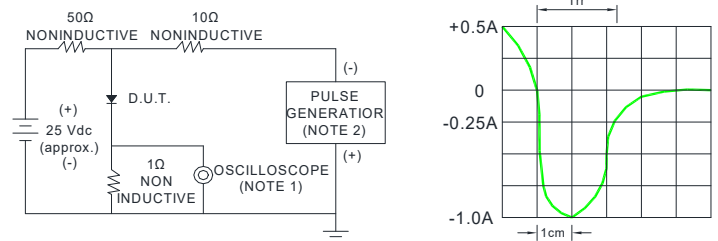


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES : 1.Rise Time=7ns max. Input Impedance= 1 magohm. 22pF
 2.Rise time=10ns max. Source Impedance= 50 ohms

SET TIME BASE FOR 50/100ns/cm



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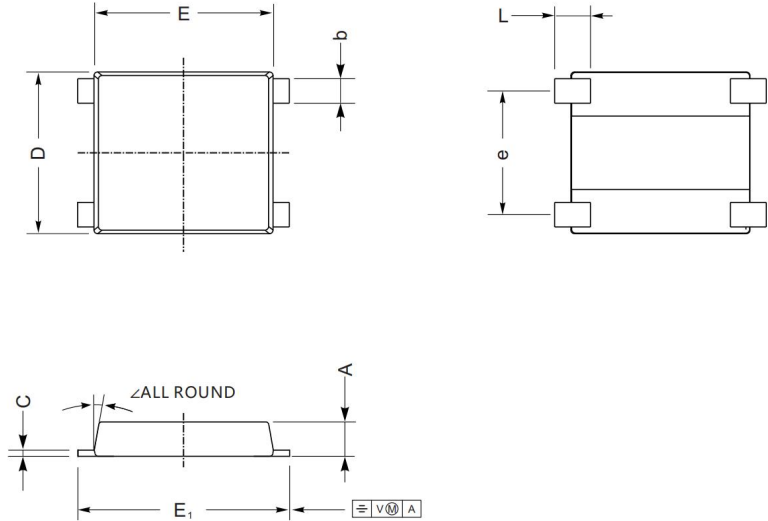
VOLTAGE RANGE

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CURRENT

4.0 Ampere

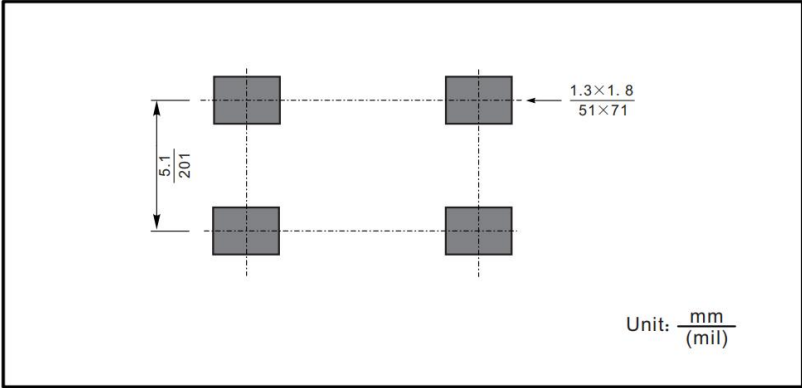
Package Outline Dimensions in inches (millimeters)



UMSB mechanical data

| UNIT | | A | C | D | E | E ₁ | L | e | b | ∠ |
|------|-----|-----|------|-----|-----|----------------|------|-----|------|-----|
| mm | max | 1.5 | 0.29 | 7.0 | 7.6 | 8.9 | 1.6 | 5.3 | 1.15 | 10° |
| | min | 1.3 | 0.17 | 6.2 | 7.1 | 8.4 | 1.0 | 4.9 | 0.95 | |
| mil | max | 59 | 12 | 276 | 299 | 350 | 55 | 209 | 45 | |
| | min | 51 | 7 | 244 | 280 | 331 | 31.5 | 193 | 37 | |

The recommended mounting pad size





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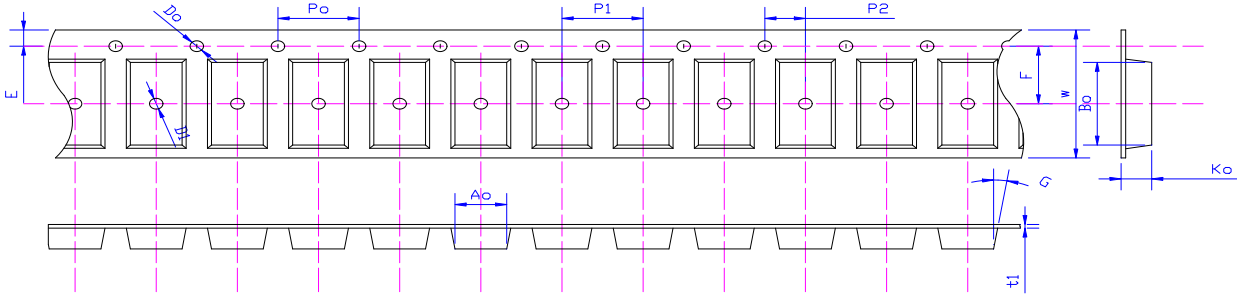
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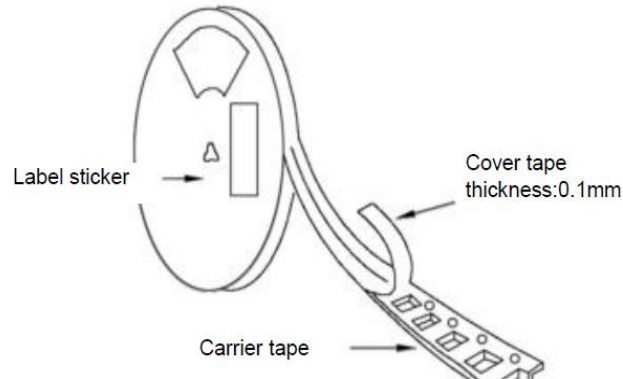
Package Reel Information

- PS black anti-static carrier tape packing



| Specifications | Ao | Bo | Ko | Po | W | t1 |
|----------------|-----------|-----------|-----------|----------|-----------|-----------|
| DBF | 5.31±0.10 | 6.68±0.10 | 1.59±0.10 | 4.00±0.1 | 12.0±0.10 | 0.30±0.02 |

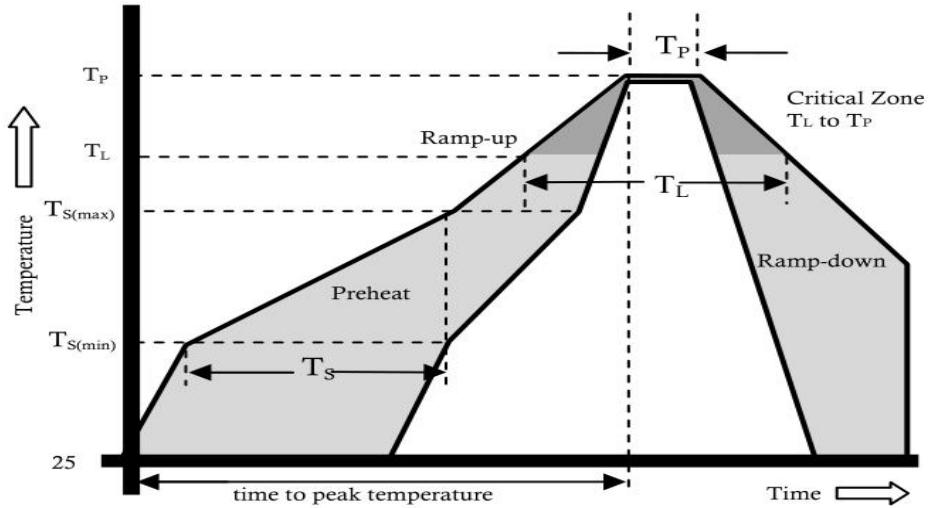
- 13 "antistatic plastic reel



| DEVICE TYPE | 13" Reel | | | |
|-------------|----------------|----------|-------------|------------------|
| | Q'TY/REEL(pcs) | REEL/BOX | BOX/CARTOON | Q'TY/CARTON(pcs) |
| DBF | 5000 | 2 | 8 | 80000 |



Reflow Profile



| Reflow Condition | | Pb-Free Assembly |
|--|---------------------------------|------------------|
| Pre Heat | Temperature Min. | +150°C |
| | Temperature Max. | +200°C |
| | Time(Min to Max) | 60-180 secs. |
| Average ramp up rate(Liquidus Temp(T_L) to peak) | | 3°C/sec. Max. |
| $T_{S(max)}$ to T_L - Ramp-up Rate | | 3°C/sec. Max. |
| Reflow | Temperature (T_L)(Liquidus) | +217°C |
| | Temperature (T_L) | 60-150 secs. |
| Peak Temp (T_P) | | +(260+0/-5)°C |
| Time within 5°C of actual Peak Temp (T_P) | | 25 secs. |
| Ramp-down Rate | | 6°C/sec. Max. |
| Time 25°C to peak Temp (T_P) | | 8 min. Max. |
| Do not exceed | | +260°C |