



BAS21A-AU~BAS21S-AU

SURFACE MOUNT, HIGH VOLTAGE, DUAL SWITCHING DIODES

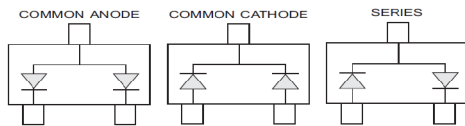
| | | | |
|----------------|--------------|--------------|---------------|
| Voltage | 250 V | Power | 250 mW |
|----------------|--------------|--------------|---------------|

Features

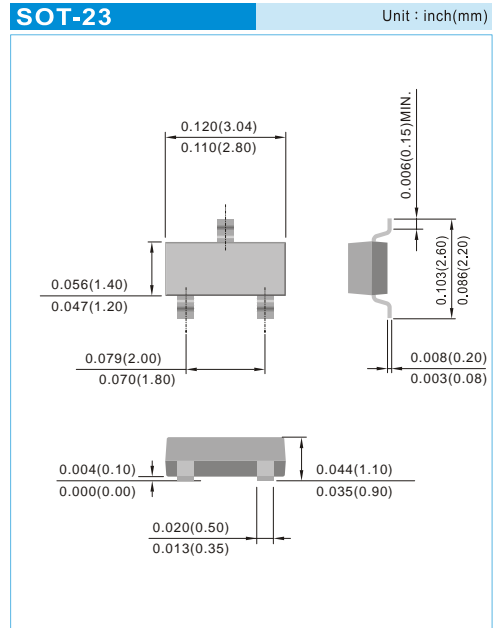
- High reverse breakdown voltage.
- Fast switching speed.
- Low reverse leakage current.
- Surface mount package ideally suited for automatic insertion.
- Galvanically isolated dual configurations to save board space.
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: SOT-23 plastic case
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.008 grams
- Marking: BAS21A-AU:21A, BAS21C-AU:21C, BAS21S-AU:21S



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ABSOLUTE RATINGS

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|-----------|-------|------|
| Maximum reverse voltage | V_R | 250 | V |
| Peak reverse voltage | V_{RRM} | 250 | V |
| Average rectified current at temp=25 °C | I_o | 0.2 | A |
| Non-repetitive peak forward surge current at t=1μs | I_{FSM} | 4 | A |



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THERMAL CHARACTERISTICS

| PARAMETER | SYMBOL | VALUE | UNIT |
|-------------------------------------|------------------|-------------|------|
| Power dissipation | P _{TOT} | 250 | mW |
| Power dissipation (Note 3) | P _{TOT} | 500 | mW |
| Typical thermal resistance (Note 1) | R _{θJA} | 357 | °C/W |
| Typical thermal resistance (Note 3) | R _{θJA} | 250 | °C/W |
| Typical thermal resistance (Note 2) | R _{θJC} | 250 | °C/W |
| | R _{θJL} | 285 | |
| Junction temperature range | T _J | 150 | °C |
| Storage temperature range | T _{STG} | -55 to +150 | °C |

Notes : 1. Mounted on a FR-4 PCB, single-sided copper, mini pad.

2. Mounted on a FR-4 PCB, single-sided copper, with 100cm² copper pad area.

3. R_{θJA} is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins mounted on a 1 inch FR-4 with 2oz. square pad of copper.

ELECTRICAL CHARACTERISTICS (T_J=25 °C, unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP | MAX. | UNIT |
|------------------------------|-------------------|---|------|-----|------|------|
| Reverse breakdown voltage | V _(BR) | I _R =100μA | 250 | - | - | V |
| Reverse current | I _R | V _R =200V | - | - | 0.1 | μA |
| | | V _R =200V T _J =150°C | - | - | 100 | |
| Forward voltage | V _F | I _F =1mA | - | - | 0.7 | V |
| | | I _F =100mA | - | - | 1 | |
| Maximum junction capacitance | C _J | V _R =0V, f=1MHz | - | - | 5 | pF |
| Reverse recovery time | T _{RR} | I _F = I _R =30mA R _L =100Ω | - | - | 50 | ns |



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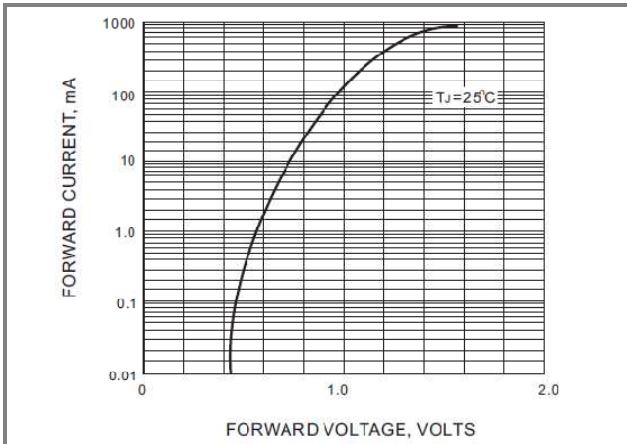


Fig.1 Typical Forward Characteristic

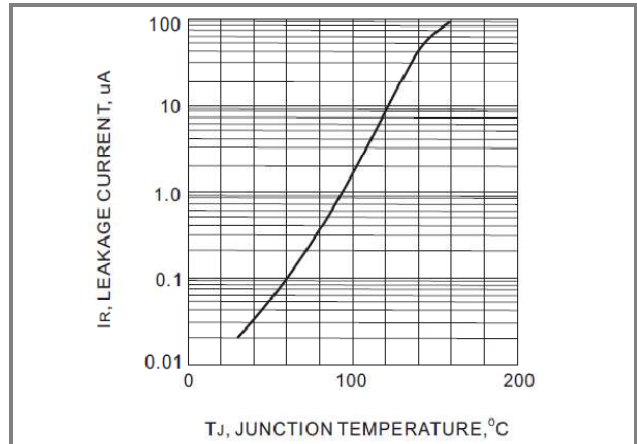


Fig.2 Leakage Current VS. Junction Temperature

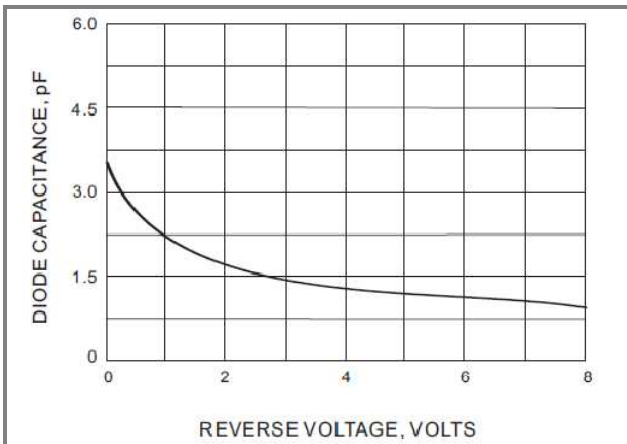


Fig.3 Typical Junction Capacitance

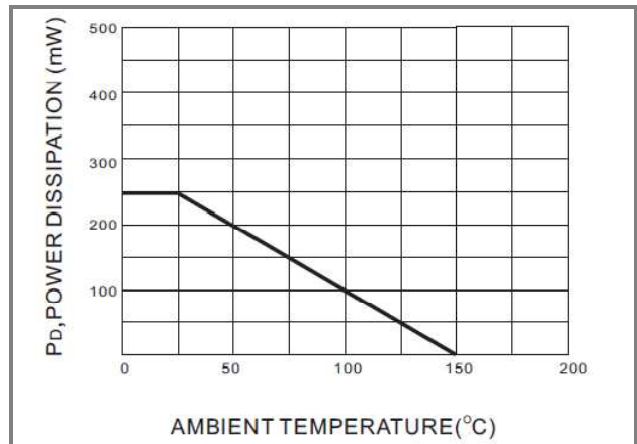
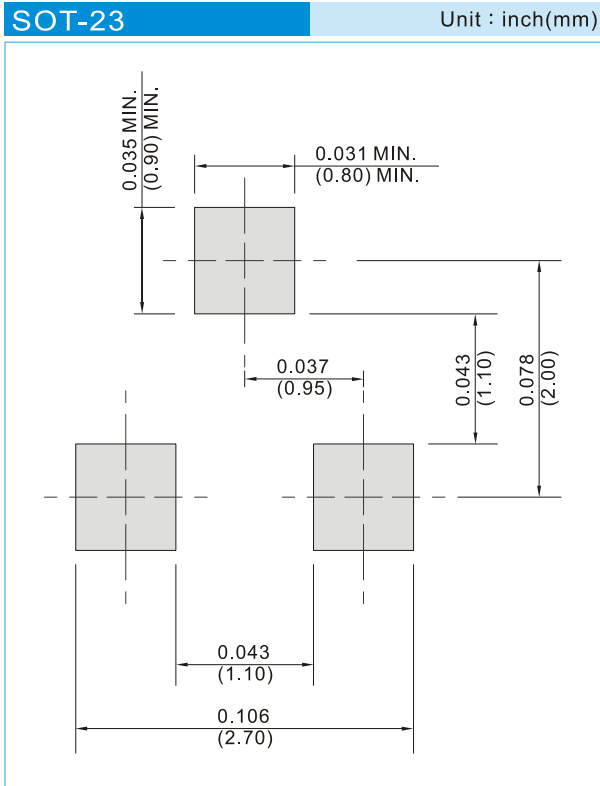


Fig.4 Power Derating Curve



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
T/R – 12K per 13" plastic Reel
T/R – 3K per 7" plastic Reel



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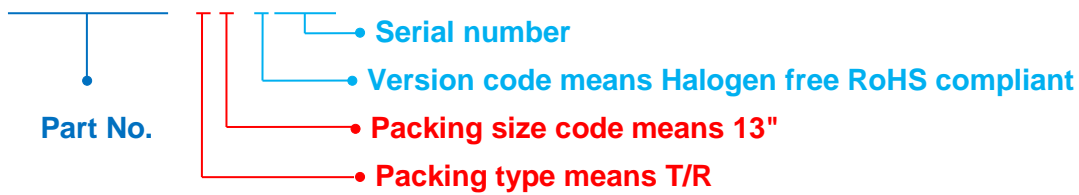
Part No._packing code_Version

BAS21A-AU_R1_000A1

BAS21A-AU_R2_000A1

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code X | | Serial number XXXX |
|--------------------------------------|----------------------|----------------------------------|----------------------|-----------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HSF Level | 1 st Code | 2 nd ~5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | Halogen free RoHS compliant | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS compliant | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |



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