



BAS21

Preliminary

DIODE

GENERAL PURPOSE DIODES

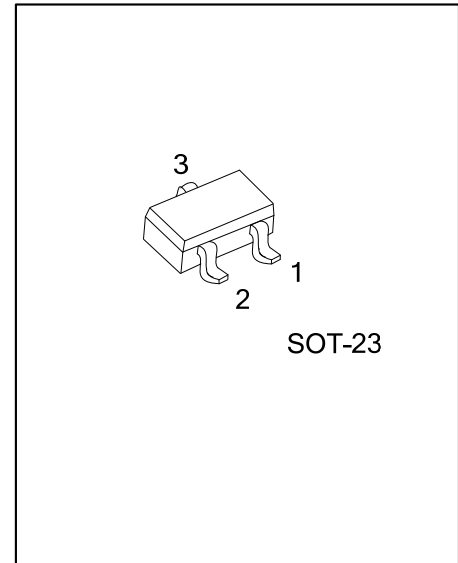
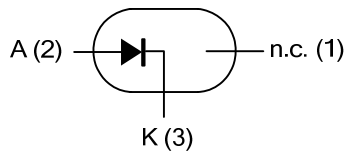
DESCRIPTION

The UTC **BAS21** is a general purpose diode using UTC's planar technology to provide customers with high current capacity and high switching speed.

FEATURES

- * High Current Capability
- * High Switching Speed

SYMBOL



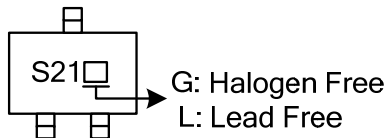
ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|--------------|---------|----------------|---|---|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| BAS21L-AE3-R | BAS21G-AE3-R | SOT-23 | x | A | K | Tape Reel |

Note: Pin Assignment: A: Anode K: Cathode x: NC

| | |
|--|---|
| <p>BAS21L-AE3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p> | <p>(1) R: Tape Reel</p> <p>(2) AE3: SOT-23</p> <p>(3) G: Halogen Free, L: Lead Free</p> |
|--|---|

MARKING



■ ABSOLUTE MAXIMUM RATINGS

| PARAMETER | SYMBOL | RATINGS | UNIT | |
|--|-----------|--------------------|------------------|---|
| Repetitive Peak Reverse Voltage | V_{RRM} | 250 | V | |
| Continuous Reverse Voltage | V_R | 200 | V | |
| Continuous Forward Current (Note 1) | I_F | 200 | mA | |
| Repetitive Peak Forward Current | I_{FRM} | 625 | mA | |
| Non-Repetitive Peak Forward Current (Square Wave, $T_J=25^\circ\text{C}$ Prior to Surge) | I_{FSM} | $t=1\mu\text{s}$ | 9 | A |
| | | $t=100\mu\text{s}$ | 3 | A |
| | | $t=10\text{ms}$ | 1.7 | A |
| Power Dissipation ($T_A=25^\circ\text{C}$) (Note 1) | P_D | 250 | mW | |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ | |
| Storage Temperature | T_{STG} | -65~+150 | $^\circ\text{C}$ | |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL CHARACTERISTICS

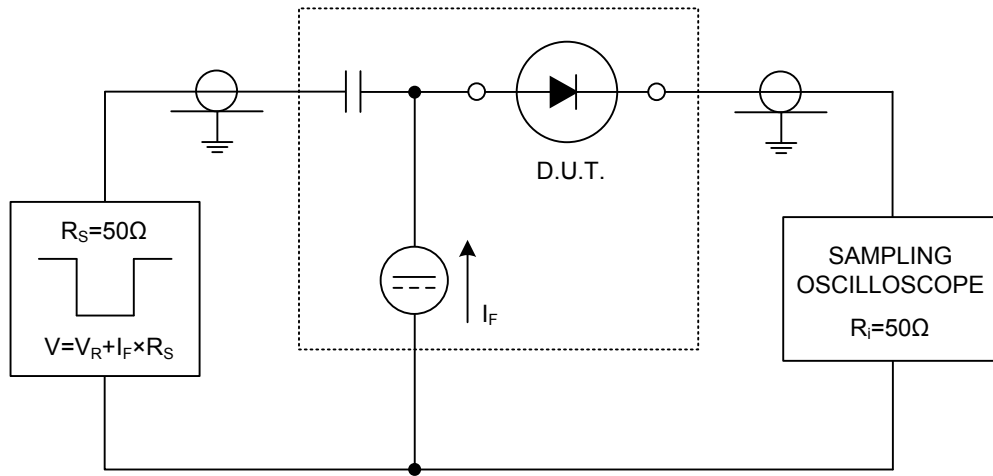
| PARAMETER | SYMBOL | RATINGS | UNIT |
|------------------------------|---------------|---------|------|
| Junction to Ambient (Note 1) | θ_{JA} | 330 | K/W |

Note: 1. Device mounted on an FR4 printed-circuit board.

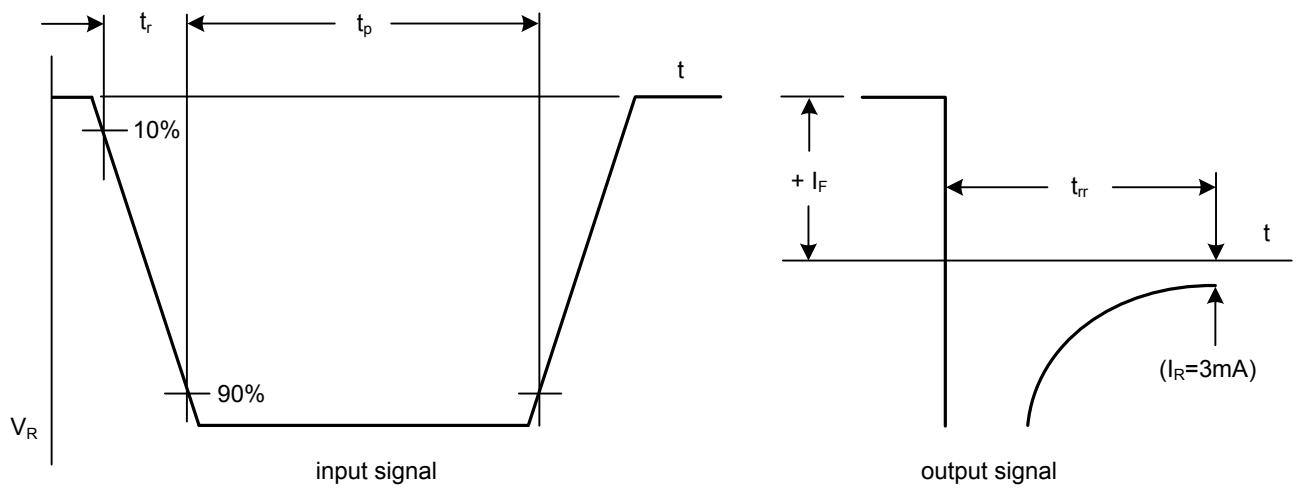
■ ELECTRICAL CHARACTERISTICS ($T_J=25^\circ\text{C}$, unless otherwise specified.)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------------------|----------|--|-----|-----|------|---------------|
| Forward Voltage | V_F | $I_F=100\text{mA}$ | | | 1 | V |
| | | $I_F=200\text{mA}$ | | | 1.25 | V |
| Reverse Current | I_R | $V_R=200\text{V}$ | | | 100 | nA |
| | | $V_R=200\text{V}, T_J=150^\circ\text{C}$ | | | 100 | μA |
| Diode Capacitance | C_D | $f=1\text{MHz}, V_R=0$ | | | 5 | pF |
| Reverse Recovery Time | T_{RR} | when switched from $I_F=30\text{mA}$ to $I_R=30\text{mA}$, $R_L=100\Omega$, measured at $I_R=3\text{mA}$ | | | 50 | ns |

■ TEST CIRCUITS AND WAVEFORMS



Reverse recovery voltage test circuit



Reverse recovery voltage waveforms

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