

BUV27 – BUV27A

SILICON POWER TRANSISTORS

High-speed,NPN power transistors in a TO-220 envelope. They are intended for fast switching applications such as high frequency and efficiency converters, switching regulators and motor control.

Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

| Symbol | Ratings | | Value | | Unit |
|-----------|---------------------------|--------------|------------|--------|------|
| | | | BUV27 | BUV27A | |
| V_{CBO} | Collector-Base Voltage | $I_E = 0$ | 240 | 300 | V |
| V_{CEO} | Collector-Emitter Voltage | $I_B = 0$ | 120 | 150 | V |
| V_{EBO} | Emitter-Base Voltage | $I_C = 0$ | 7 | 7 | V |
| I_C | Collector Current | | 12 | | A |
| I_{CM} | Collector Peak Current | $t_p = 10ms$ | 20 | | A |
| I_B | Base Current | | 4 | | A |
| I_{BM} | Base Current | $t_p = 10ms$ | 6 | | A |
| P_t | Power Dissipation | | 85 | 85 | W |
| T_j | Junction Temperature | | 175 | | °C |
| T_{stg} | Storage Temperature range | | -65 to 175 | | |

Limiting values in accordance with the Absolute Maximum System (IEC 134)

THERMAL CHARACTERISTICS

| Symbol | Ratings | Value | Unit |
|--------------|--------------------------------|-------|------|
| R_{thJ-mb} | From junction to mounting base | 1.76 | °C/W |

BUV27 – BUV27A

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

| Symbol | Ratings | Test Condition(s) | Value | | | Unit | |
|------------------|--------------------------------------|---|--------|-----|-----|------|----|
| | | | Min | Typ | Max | | |
| I_{CEX} | Collector Cutoff Current (*) | $V_{CE} = V_{CESMax}$ $V_{BE} = 1.5V, T_J = 125^\circ C$ | BUV27 | - | - | 1 | mA |
| | | | BUV27A | | | | |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = 5V, I_C = 0$ | BUV27 | - | - | 1 | mA |
| | | | BUV27A | | | | |
| $V_{CEO_{sust}}$ | Collector-Emitter Sustaining Voltage | $I_B = 0, I_C = 0.2A$ $L = 25mH$ | BUV27 | 120 | - | - | V |
| | | | BUV27A | 150 | - | - | |
| V_{EBO} | Emitter-Base Breakdown Voltage | $I_E = 50mA, I_C = 0$ | BUV27 | 7 | - | 30 | V |
| | | | BUV27A | | | | |
| $V_{CE(SAT)}$ | Collector-Emitter saturation Voltage | $I_C = 4A, I_B = 400mA$ | BUV27 | - | - | 0.7 | V |
| | | | BUV27A | - | - | 0.7 | |
| | | | BUV27 | - | - | 1.5 | |
| | | | BUV27A | - | - | 1.5 | |
| $V_{BE(SAT)}$ | Base-Emitter Saturation Voltage | $I_C = 8A, I_B = 0.8A$ | BUV27 | - | - | 2 | V |
| | | | BUV27A | - | - | 2 | |

SWITCHING TIMES

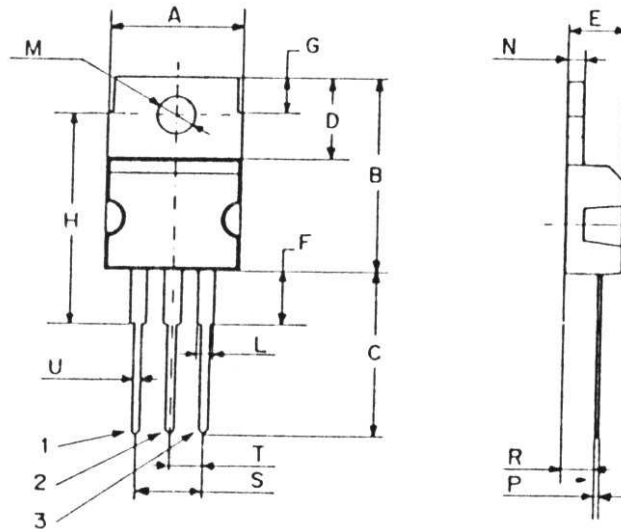
| Symbol | Ratings | Test Condition(s) | Value | | | Unit | |
|-----------|---------------|--|--------|-----|------|------|---------|
| | | | Min | Typ | Max | | |
| t_{on} | turn-on time | For BUV27 $I_C = 8A, V_{CC} = 50V$ | BUV27 | - | 0.4 | 0.8 | μs |
| | | | BUV27A | | | | |
| t_{off} | turn-off time | $I_{B1} = 0.8A, I_{B2} = 1.6A$ For BUV27A | BUV27 | - | 0.5 | 1.2 | |
| | | | BUV27A | | | | |
| t_f | Fall time | $I_C = 7A, V_{CC} = 50V$ $I_{B1} = 0.7A, I_{B2} = 1.4A$ | BUV27 | - | 0.12 | 0.25 | |
| | | | BUV27A | | | | |

(*) Measured with a half-sinewave voltage (curve tracer).

BUV27 – BUV27A

MECHANICAL DATA CASE TO-220

| DIMENSIONS (mm) | | |
|-----------------|-------|-------|
| | Min. | Max. |
| A | 9,90 | 10,30 |
| B | 15,65 | 15,90 |
| C | 13,20 | 13,40 |
| D | 6,45 | 6,65 |
| E | 4,30 | 4,50 |
| F | 2,70 | 3,15 |
| G | 2,60 | 3,00 |
| H | 15,75 | 17,15 |
| L | 1,15 | 1,40 |
| M | 3,50 | 3,70 |
| N | - | 1,37 |
| P | 0,46 | 0,55 |
| R | 2,50 | 2,70 |
| S | 4,98 | 5,08 |
| T | 2,49 | 2,54 |
| U | 0,70 | 0,90 |



| | |
|---------|-----------|
| Pin 1 : | Base |
| Pin 2 : | Collector |
| Pin 3 : | Emitter |
| Package | Collector |

Revised August 2012

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