

BUV26

Switchmode Series NPN Silicon Power Transistor

Designed for high-speed applications.

Features

- Switchmode Power Supplies
- High Frequency Converters
- Relay Drivers
- Driver
- Pb-Free Package is Available*

MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

| Rating | Symbol | Value | Unit |
|--|-------------------|--------------|------------------|
| Collector-Emitter Voltage | $V_{CEO(sus)}$ | 90 | Vdc |
| Collector-Base Voltage | V_{CBO} | 180 | Vdc |
| Emitter-Base Voltage | V_{EBO} | 7.0 | Vdc |
| Collector Current – Continuous – Peak (pw 10 ms) | I_C I_{CM} | 20 30 | Adc Apk |
| Base Current – Continuous | I_B I_{BM} | 4.0 6.0 | Adc Adc |
| Total Power Dissipation @ $T_C = 25^\circ\text{C}$ Total Power Dissipation @ $T_C = 60^\circ\text{C}$ | P_D P_D | 85 65 | W W |
| Operating and Storage Junction Temperature Range | T_J, T_{stg} | - 65 to +150 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Max | Unit |
|---|-----------------|------|--------------------|
| Thermal Resistance, Junction-to-Case | $R_{\theta JC}$ | 1.76 | $^\circ\text{C/W}$ |

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

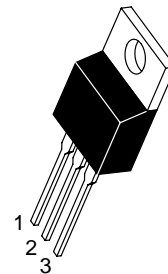


ON Semiconductor®

<http://onsemi.com>

**12 AMPERES
NPN SILICON
POWER TRANSISTORS
90 VOLTS, 85 WATTS**

MARKING DIAGRAM



TO-220
CASE 221A
STYLE 1



BUV26 = Device Code
A = Assembly Location
Y = Year
WW = Work Week
G = Pb-Free Package

ORDERING INFORMATION

| Device | Package | Shipping |
|--------|---------------------|---------------|
| BUV26 | TO-220 | 50 Units/Rail |
| BUV26G | TO-220 (Pb-Free) | 50 Units/Rail |

BUV26

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

| Characteristic | Symbol | Min | Max | Unit |
|----------------|--------|-----|-----|------|
|----------------|--------|-----|-----|------|

OFF CHARACTERISTICS

| | | | | |
|--|----------------|-----|-----|------|
| Collector–Emitter Sustaining Voltage ($I_C = 200\text{ mA}$, $I_B = 0$, $L = 25\text{ mH}$) | $V_{CEO(sus)}$ | 90 | – | Vdc |
| Collector Cutoff Current at Reverse Bias ($V_{CE} = 180\text{ V}$, $V_{BE} = -1.5\text{ V}$, $T_C = 125^\circ\text{C}$) | I_{CEX} | – | 1.0 | mAdc |
| Emitter Base Reverse Voltage ($I_E = 50\text{ mA}$) | V_{EBO} | 7.0 | 30 | V |
| Emitter Cutoff Current ($V_{EB} = 5.0\text{ V}$) | I_{EBO} | – | 1.0 | mAdc |
| Collector Cutoff Current ($V_{CE} = 180\text{ V}$, $R_{BE} = 50\ \Omega$, $T_C = 125^\circ\text{C}$) | I_{CER} | – | 3.0 | mAdc |

ON CHARACTERISTICS

| | | | | |
|---|---------------|--------|------------|-----|
| Collector–Emitter Saturation Voltage ($I_C = 6.0\text{ A}$, $I_B = 0.4\text{ A}$) ($I_C = 12\text{ A}$, $I_B = 1.2\text{ A}$) | $V_{CE(sat)}$ | – – | 0.6 1.5 | Vdc |
| Base–Emitter Saturation Voltage ($I_C = 12\text{ A}$, $I_B = 1.2\text{ A}$) | $V_{BE(sat)}$ | – | 2.0 | Vdc |

SWITCHING CHARACTERISTICS (Resistive Load)

| | | | | | |
|--------------|--|----------|---|------|---------------|
| Turn On Time | $I_C = 12\text{ A}$, $I_B = 1.2\text{ A}$ $V_{CC} = 50\text{ V}$, $V_{BE} = 6.0\text{ V}$ $R_{B2} = 2.5\ \Omega$ | t_{on} | – | 0.6 | μs |
| Storage Time | | t_s | – | 1.0 | |
| Fall Time | | t_f | – | 0.15 | |

SWITCHING CHARACTERISTICS (Inductive Load)

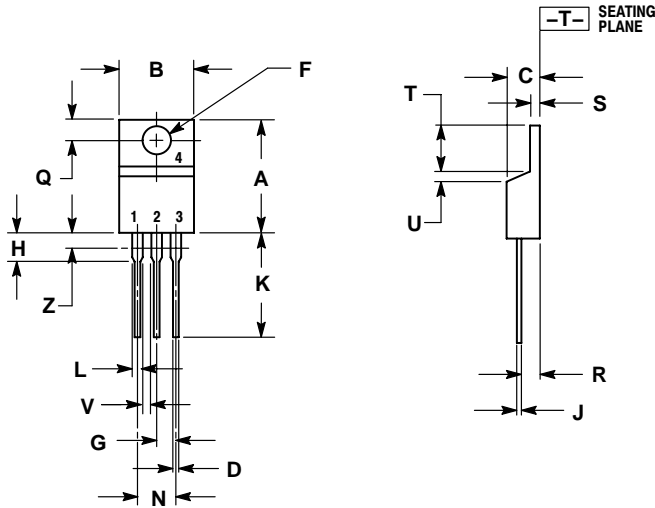
| | | | | | |
|--------------|--|-------|---|-----|---------------|
| Storage Time | $V_{CC} = 50\text{ V}$, $I_C = 12\text{ A}$ $I_{B(end)} = 1.2\text{ A}$, $V_B = 5.0\text{ V}$ $L_B = 0.5\ \mu\text{H}$, $T_J = 125^\circ\text{C}$ | T_s | – | 2.0 | μs |
| Fall Time | | T_f | – | .15 | |

1. Pulse Test: Pulse width $\leq 300\ \mu\text{s}$; Duty cycle $\leq 2\%$.

BUV26

PACKAGE DIMENSIONS

TO-220
CASE 221A-07
ISSUE AA



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

| DIM | INCHES | | MILLIMETERS | |
|-----|--------|-------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.570 | 0.620 | 14.48 | 15.75 |
| B | 0.380 | 0.405 | 9.66 | 10.28 |
| C | 0.160 | 0.190 | 4.07 | 4.82 |
| D | 0.025 | 0.035 | 0.64 | 0.88 |
| F | 0.142 | 0.147 | 3.61 | 3.73 |
| G | 0.095 | 0.105 | 2.42 | 2.66 |
| H | 0.110 | 0.155 | 2.80 | 3.93 |
| J | 0.014 | 0.022 | 0.36 | 0.55 |
| K | 0.500 | 0.562 | 12.70 | 14.27 |
| L | 0.045 | 0.060 | 1.15 | 1.52 |
| N | 0.190 | 0.210 | 4.83 | 5.33 |
| Q | 0.100 | 0.120 | 2.54 | 3.04 |
| R | 0.080 | 0.110 | 2.04 | 2.79 |
| S | 0.045 | 0.055 | 1.15 | 1.39 |
| T | 0.235 | 0.255 | 5.97 | 6.47 |
| U | 0.000 | 0.050 | 0.00 | 1.27 |
| V | 0.045 | --- | 1.15 | --- |
| Z | --- | 0.080 | --- | 2.04 |

STYLE 1:

1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR

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