

isc Silicon PNP Power Transistor

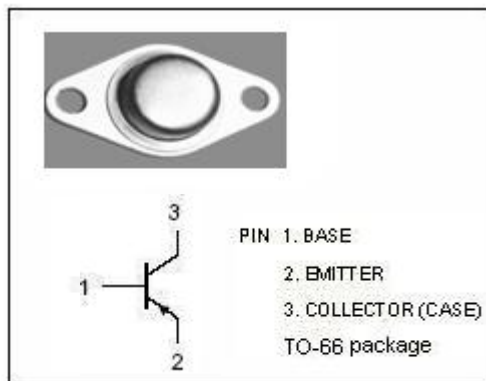
BUX78

DESCRIPTION

- Continuous Collector Current- $I_C = -5A$
- Collector Power Dissipation-
: $P_C = 40W @ T_C = 25^\circ C$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = -80V(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

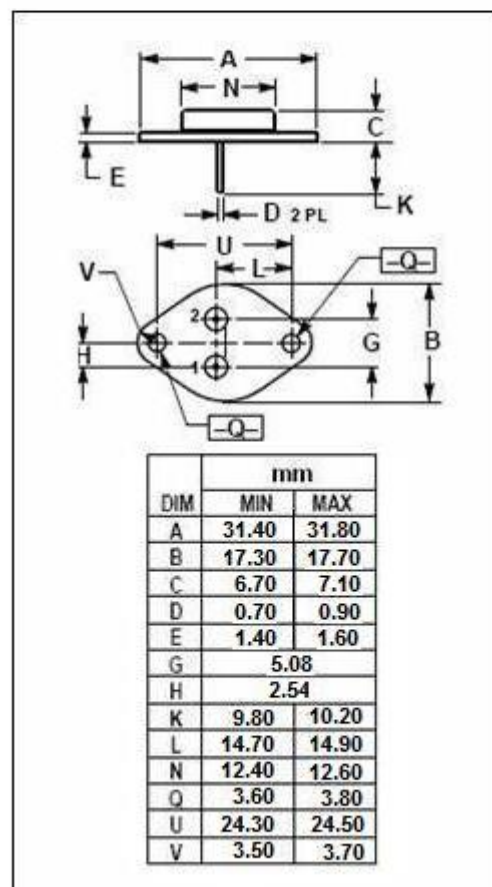
APPLICATIONS

- Designed for use in switching regulators and general purpose power amplifiers.



ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ C$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------|
| V_{CBO} | Collector-Base Voltage | -100 | V |
| V_{CEO} | Collector-Emitter Voltage | -80 | V |
| V_{EBO} | Emitter-Base Voltage | -6 | V |
| I_C | Collector Current-Continuous | -5 | A |
| I_B | Base Current-Continuous | -0.8 | A |
| P_C | Collector Power Dissipation@ $T_C = 25^\circ C$ | 40 | W |
| T_J | Junction Temperature | 200 | $^\circ C$ |
| T_{stg} | Storage Temperature | -65~200 | $^\circ C$ |



THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|--------------|--------------------------------------|-----|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 4.4 | $^\circ C/W$ |

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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|-----------------------|--------------------------------------|---|------|--------------|------|
| V _{CEO(SUS)} | Collector-Emitter Sustaining Voltage | I _C = -50mA; I _B = 0 | -80 | | V |
| V _{CES} | Collector-Emitter Voltage | I _C = -2mA; V _{BE} = 0 | -100 | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E = -1mA; I _C = 0 | -6 | | V |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = -5A; I _B = -0.5A | | -1.0 | V |
| V _{BE(on)} | Base-Emitter On Voltage | I _C = -5A; I _B = -0.5A | | -1.3 | V |
| I _{CEO} | Collector Cutoff Current | V _{CE} = -60V; I _B = 0 | | -10 | μ A |
| I _{CBO} | Collector Cutoff Current | V _{CB} = -80V; I _E = 0 V _{CB} = -80V; I _E = 0, T _C =150°C | | -0.5 -150 | μ A |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = -4V; I _C = 0 | | -0.5 | μ A |
| h _{FE-1} | DC Current Gain | I _C = -0.5A; V _{CE} = -5V | 70 | | |
| h _{FE-2} | DC Current Gain | I _C = -2A; V _{CE} = -5V | 50 | | 120 |
| h _{FE-3} | DC Current Gain | I _C = -5A; V _{CE} = -5V | 30 | | |
| h _{FE-4} | DC Current Gain | I _C = -1A; V _{CE} = -5V; T _C = -40°C | 25 | | |
| f _T | Current-Gain—Bandwidth Product | I _C = -0.5A; V _{CE} = -5V | 1.5 | | MHz |

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