

isc Silicon NPN Power Transistor
3DD4244D
DESCRIPTION

- Collector–Emitter Sustaining Voltage
: $V_{CEO(SUS)} = 400V(\text{Min.})$
- Collector Saturation Voltage
: $V_{CE(sat)} = 1.0(\text{Max}) @ I_C = 1.0A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

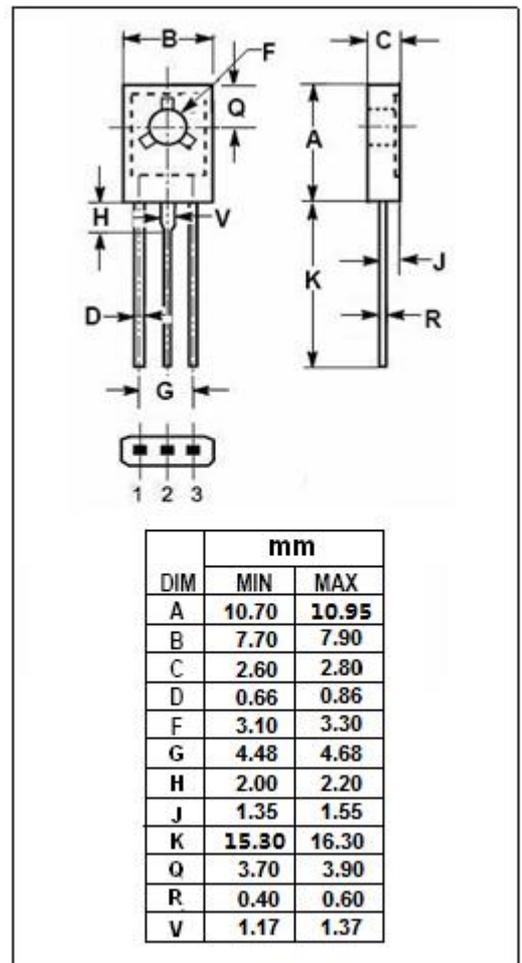
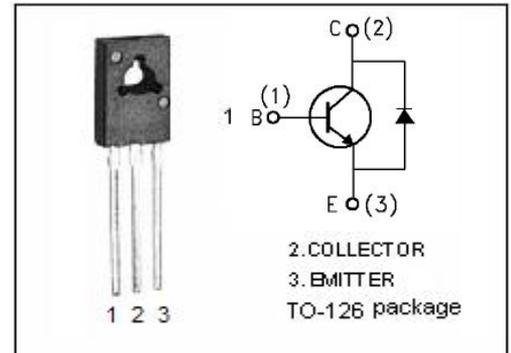
- Energy-saving light
- Electronic ballasts
- High frequency switching power supply
- High frequency power transform
- Commonly power amplifier circuit

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector- Base Voltage | 700 | V |
| V_{CEO} | Collector-Emitter Voltage | 400 | V |
| V_{EBO} | Emitter-Base Voltage | 9 | V |
| I_C | Collector Current-Continuous | 3.0 | A |
| I_{CP} | Collector Current-peak | 6.0 | A |
| I_B | Base Current | 1 | A |
| I_{BM} | Base Current-Peak | 2 | A |
| P_C | Collector Power Dissipation $T_C=25^\circ\text{C}$ | 30 | W |
| T_j | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -65~150 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|------|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 4.17 | $^\circ\text{C/W}$ |



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ELECTRICAL CHARACTERISTICS

 T_C =25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|--|-----------------|------|-----|------|
| V _{CEO(SUS)} | Collector-Emitter Sustaining Voltage | I _C = 10mA; I _B = 0 | 400 | | | V |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = 1.5 A ;I _B = 0.5A | | | 1.5 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C = 1.0 A ;I _B = 0.25A | | | 1.2 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = 600V;I _E = 0 | | | 5 | uA |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 9V; I _C = 0 | | | 5 | uA |
| I _{CEO} | Collector Cutoff Current | V _{CB} =400V;I _E = 0 | | | 10 | uA |
| h _{FE-1} | DC Current Gain | I _C = 0.5 A; V _{CE} = 5V | 10 | | 30 | |
| *h _{FE-2} | DC Current Gain | I _C = 2A; V _{CE} = 5V | 6 | | | |
| Switching Times | | | | | | |
| t _s | Storage Time | I _C =0.5A | 2.0-2.5-3.0-3.5 | | | μ s |

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