

isc Silicon NPN Power Transistor

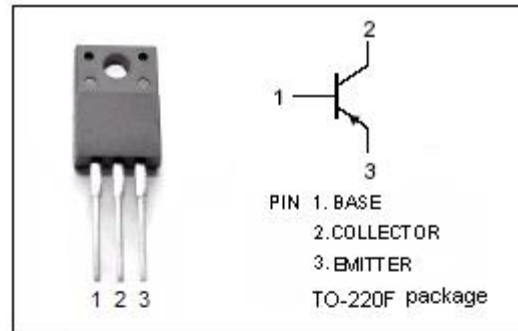
2SC3746

DESCRIPTION

- Good Linearity of h_{FE}
- High Switching Speed
- Low Collector Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

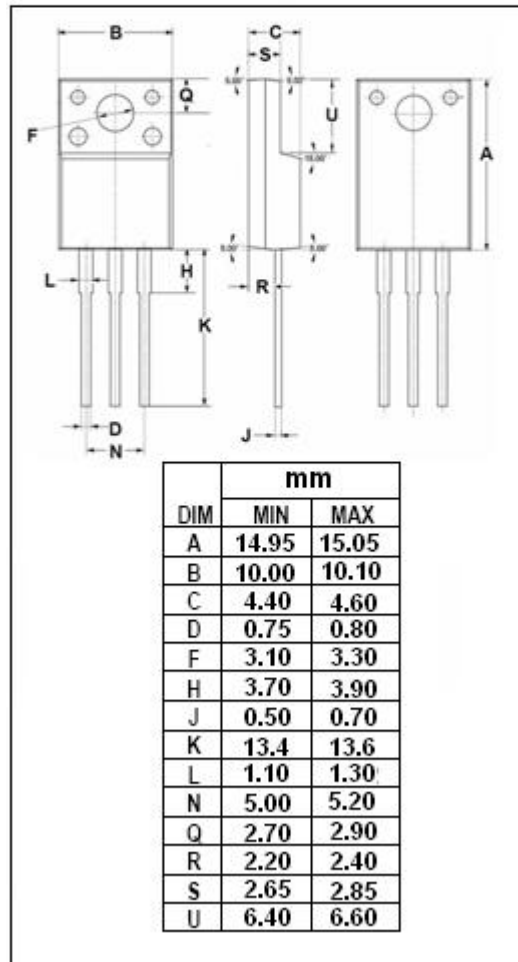
APPLICATIONS

- Various inductance lamp drivers for electrical equipment
- Inverters, converters
- Power amplifiers
- High-speed switching applications.



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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 80 | V |
| V_{CEO} | Collector-Emitter Voltage | 60 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current-Continuous | 5 | A |
| I_{CM} | Collector Current-Pulse | 7 | A |
| P_C | Collector Power Dissipation @ $T_c=25^\circ\text{C}$ | 20 | W |
| | Collector Power Dissipation @ $T_a=25^\circ\text{C}$ | 2.0 | |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ\text{C}$ |



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ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|-----|------|-----|------|
| V _{(BR)CEO} | Collector-Emitter Breakdown Voltage | I _C = 10mA; R _{BE} = ∞ | 60 | | | V |
| V _{(BR)CBO} | Collector-Base Breakdown Voltage | I _C = 1mA; I _E = 0 | 80 | | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E = 10mA; I _C = 0 | 5 | | | V |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = 2.5A; I _B = 0.125A | | | 0.4 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = 40V; I _E = 0 | | | 100 | μ A |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 4V; I _C = 0 | | | 100 | μ A |
| h _{FE} | DC Current Gain | I _C = 1A; V _{CE} = 2V | 70 | | 280 | |
| f _T | Current-Gain—Bandwidth Product | I _C = 1A; V _{CE} = 5V | | 100 | | MHz |

NOTICE:

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