

isc Silicon NPN Power Transistor

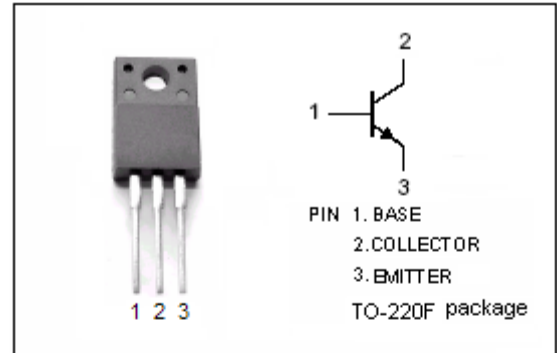
2SD2549

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 80V(\text{Min})$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 0.7V(\text{Max.}) @ I_C = 3A$
- Good Linearity of h_{FE}

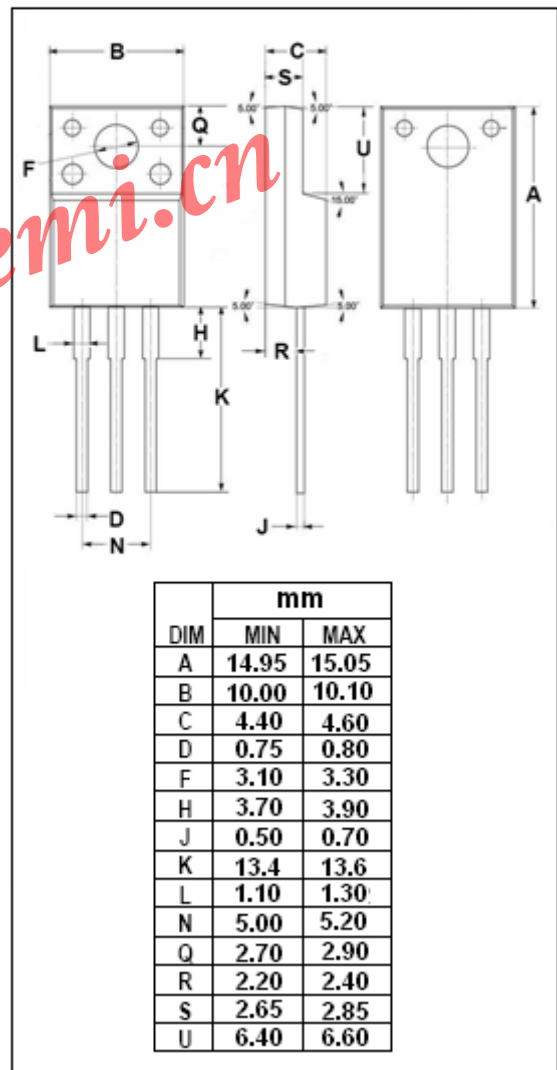
APPLICATIONS

- Designed for power amplifier 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 | 80 | V |
| V_{EBO} | Emitter-Base Voltage | 6 | V |
| I_C | Collector Current-Continuous | 3 | A |
| I_{CM} | Collector Current-Peak | 5 | A |
| P_C | Collector Power Dissipation @ $T_C=25^\circ\text{C}$ | 20 | W |
| | Collector Power Dissipation @ $T_a=25^\circ\text{C}$ | 2 | |
| 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 = 30mA; I _B = 0 | 80 | | | V |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = 3A; I _B = 0.375A | | | 0.7 | V |
| V _{BE(on)} | Base-Emitter On Voltage | I _C = 3A; V _{CE} = 4V | | | 1.8 | V |
| I _{CES} | Collector Cutoff Current | V _{CE} = 70V; V _{BE} = 0 | | | 100 | μ A |
| I _{CEO} | Collector Cutoff Current | V _{CE} = 70V; I _B = 0 | | | 100 | μ A |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 6V; I _C = 0 | | | 1.0 | mA |
| h _{FE-1} | DC Current Gain | I _C = 1A; V _{CE} = 4V | 70 | | 250 | |
| h _{FE-2} | DC Current Gain | I _C = 3A; V _{CE} = 4V | 10 | | | |
| f _T | Current-Gain—Bandwidth Product | I _C = 0.5A; V _{CE} = 10V | | 30 | | MHz |

Switching Times

| | | | | | | |
|------------------|--------------|---|--|--|-----|-----|
| t _{on} | Turn-on Time | I _C = 1A; I _{B1} = -I _{B2} = 0.1A; V _{CC} = 50V | | | 0.5 | μ s |
| t _{stg} | Storage Time | | | | 4.5 | μ s |
| t _f | Fall Time | | | | 0.5 | μ s |

◆ h_{FE-1} Classifications

| Q | P |
|--------|---------|
| 70-150 | 120-250 |