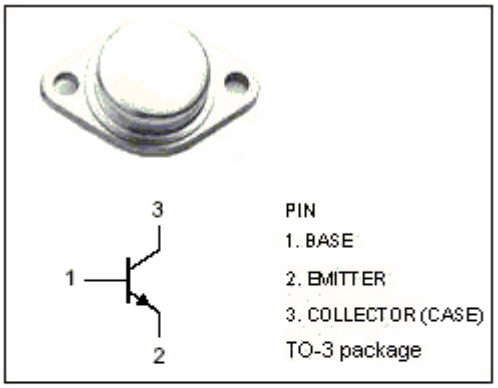
# isc Silicon NPN Power Transistor 2N6274

## DESCRIPTION

- High Switching Speed
- High DC Current Gain-
  : $h_{FE}$= 30-120@ $I_C$= 20A
- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$=1.0V(Min.)@ $I_C$= 20A
- Complement to Type 2N6377

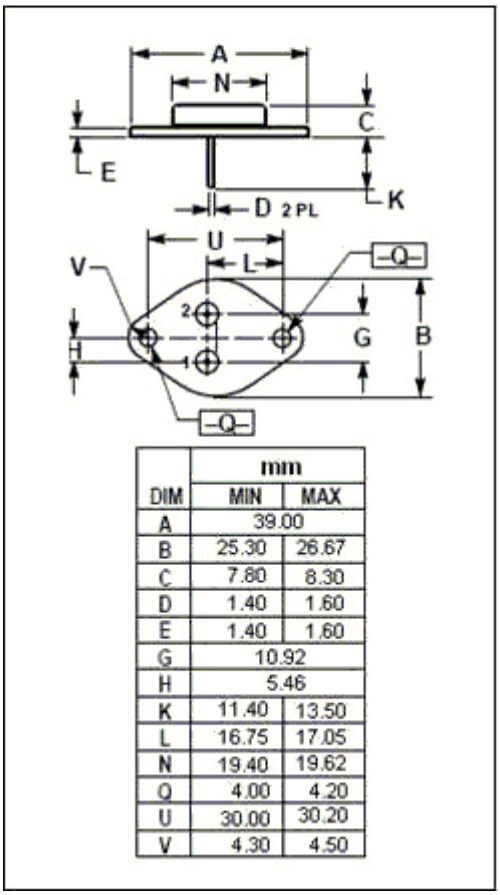



## APPLICATIONS

- Designed for use in industrial-military power amplifier and switching circuit applications.

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector- Base Voltage | 120 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 100 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 6 | V |
| $I_C$ | Collector Current-Continuous | 50 | A |
| $I_{CM}$ | Collector Current-Peak | 100 | A |
| $I_B$ | Base Current-Continuous | 20 | A |
| $P_C$ | Collector Power Dissipation @$T_C$=25℃ | 250 | W |
| $T_J$ | Junction Temperature | 200 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~200 | ℃ |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 39.00 | |
| B | 25.30 | 26.67 |
| C | 7.80 | 8.30 |
| D | 1.40 | 1.60 |
| E | 1.40 | 1.60 |
| G | 10.92 | |
| H | 5.46 | |
| K | 11.40 | 13.50 |
| L | 16.75 | 17.05 |
| N | 19.40 | 19.62 |
| Q | 4.00 | 4.20 |
| U | 30.00 | 30.20 |
| V | 4.30 | 4.50 |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 0.7 | ℃/W |

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## ELECTRICAL CHARACTERISTICS

**Tj=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$= 50mA; $I_B$= 0 | 100 | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C$= 20A; $I_B$= 2A | | 1.0 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C$= 50A; $I_B$= 10A | | 3.0 | V |
| $V_{BE(sat)-1}$ | Base-Emitter Saturation Voltage | $I_C$= 20A; $I_B$= 2A | | 1.8 | V |
| $V_{BE(sat)-2}$ | Base-Emitter Saturation Voltage | $I_C$= 50A; $I_B$= 10A | | 3.5 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C$= 20A; $V_{CE}$= 4V | | 1.8 | V |
| $I_{CEO}$ | Collector Cutoff Current | $V_{CE}$= 50V; $I_B$= 0 | | 50 | μA |
| $I_{CEX}$ | Collector Cutoff Current | $V_{CE}$= 120V; $V_{BE(off)}$=1.5V<br>$V_{CE}$= 120V; $V_{BE(off)}$=1.5V; $T_C$=150℃ | | 10<br>1.0 | μA<br>mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 6V; $I_C$= 0 | | 0.1 | mA |
| $h_{FE-1}$ | DC Current Gain | $I_C$= 1A; $V_{CE}$= 4V | 50 | | |
| $h_{FE-2}$ | DC Current Gain | $I_C$= 20A; $V_{CE}$= 4V | 30 | 120 | |
| $h_{FE-3}$ | DC Current Gain | $I_C$= 50A; $V_{CE}$= 4V | 10 | | |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= 1A; $V_{CE}$= 10V | 30 | | MHz |
| $C_{OB}$ | Output Capacitance | $I_E$= 0; $V_{CB}$= 10V; $f_{test}$= 0.1MHz | | 600 | pF |

Switching times

| | | | | | |
|---|---|---|---|---|---|
| $t_r$ | Rise Time | $V_{CC}$= 80V, $I_C$= 20A, $I_{B1}$= 2A, $V_{BE(off)}$= 5V | | 0.35 | μs |
| $t_s$ | Storage Time | $V_{CC}$= 80V, $I_C$= 20A, $I_{B1}$= -$I_{B2}$= 2A | | 0.80 | μs |
| $t_f$ | Fall Time | | | 0.25 | μs |