# isc Silicon NPN Power Transistor MJH16018

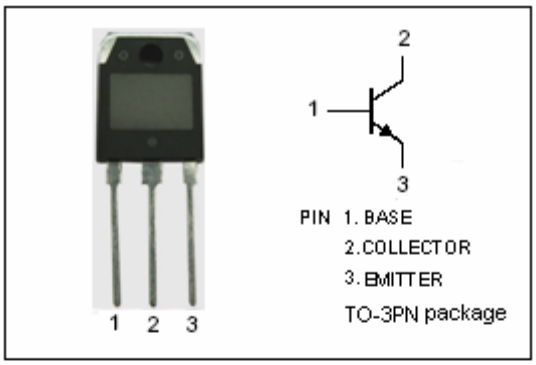
## DESCRIPTION

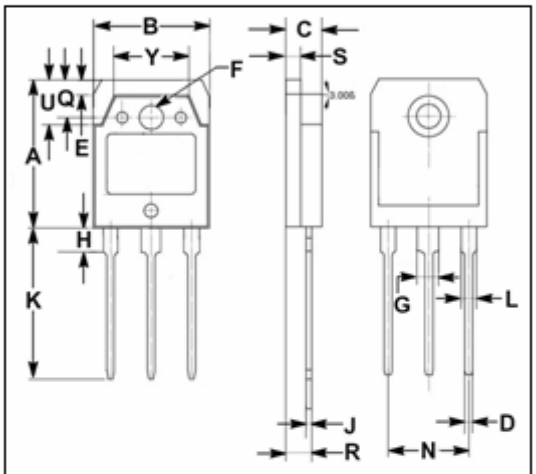
- Collector-Emitter Voltage-
  : $V_{CEO(SUS)}$= 800V(Min)
- Fast Turn-Off Time

## APPLICATIONS

Designed for high-voltage, high-speed , power switching in inductive circuits where fall time is critical. They are particularly suited for line operated switchmode applications as:

- Switching Regulators
- Inverters
- Solenoids
- Relay Drivers
- Motor Controls
- Deflection Circuits




| DIM | mm MIN | MAX |
|---|---|---|
| A | 19.90 | 20.10 |
| B | 15.50 | 15.70 |
| C | 4.70 | 4.90 |
| D | 0.90 | 1.10 |
| E | 1.90 | 2.10 |
| F | 3.40 | 3.60 |
| G | 2.90 | 3.10 |
| H | 3.20 | 3.40 |
| J | 0.595 | 0.605 |
| K | 20.50 | 20.70 |
| L | 1.90 | 2.10 |
| N | 10.89 | 10.91 |
| Q | 4.90 | 5.10 |
| R | 3.35 | 3.45 |
| S | 1.995 | 2.005 |
| U | 5.90 | 6.10 |
| Y | 9.90 | 10.10 |

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CEV}$ | Collector-Emitter Voltage | 1500 | V |
| $V_{CEO(SUS)}$ | Collector-Emitter Voltage | 800 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 6 | V |
| $I_C$ | Collector Current-Continuous | 10 | A |
| $I_{CM}$ | Collector Current-Peak | 15 | A |
| $I_B$ | Base Current-Continuous | 8 | A |
| $I_{BM}$ | Base Current-Peak | 12 | A |
| $P_C$ | Collector Power Dissipation @$T_C$=25℃ | 150 | W |
| | Collector Power Dissipation @$T_C$=100℃ | 50 | |
| $T_j$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{(th)j-c}$ | Thermal Resistance,Junction to Case | 1.0 | ℃/W |

# isc Silicon NPN Power Transistor MJH16018

## ELECTRICAL CHARACTERISTICS

**Tj=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$= 50mA; $I_B$= 0 | 800 | | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C$= 5A ;$I_B$= 1A<br>$I_C$= 5A ;$I_B$= 1A ;$T_C$=100℃ | | | 1.5<br>2.0 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C$= 10A ;$I_B$= 4A | | | 1.5 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= 5A ;$I_B$= 1A<br>$I_C$= 5A ;$I_B$= 1A ;$T_C$=100℃ | | | 1.5<br>1.5 | V |
| $I_{CEV}$ | Collector Cutoff Current | $V_{CEV}$=1500V,$V_{BE(off)}$=1.5V<br>$V_{CEV}$=1500V,$V_{BE(off)}$=1.5V;$T_C$=100℃ | | | 0.25<br>1.5 | mA |
| $I_{CER}$ | Collector Cutoff Current | $V_{CE}$=1500V;$R_{BE}$=50Ω;$T_C$=100℃ | | | 2.5 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 6V; $I_C$= 0 | | | 1.0 | mA |
| $h_{FE}$ | DC Current Gain | $I_C$= 5A ; $V_{CE}$= 5V | 7 | | | |
| $C_{OB}$ | Output Capacitance | $I_E$= 0; f= 1kHz ; $V_{CB}$= 10V | | | 400 | pF |

Switching times; Resistive load

| | | | | | | |
|---|---|---|---|---|---|---|
| $t_d$ | Delay Time | $I_C$=5A; $I_{B1}$= 1A;$I_{B2}$= -2A;<br>$V_{CC}$= 250V ,$R_{B2}$= 3Ω;<br>PW=30μs<br>Duty Cycle≤2% | | 0.05 | 0.1 | μs |
| $t_r$ | Rise Time | | | 0.3 | 0.4 | μs |
| $t_s$ | Storage Time | | | 2 | 3 | μs |
| $t_f$ | Fall Time | | | 0.9 | 1.2 | μs |