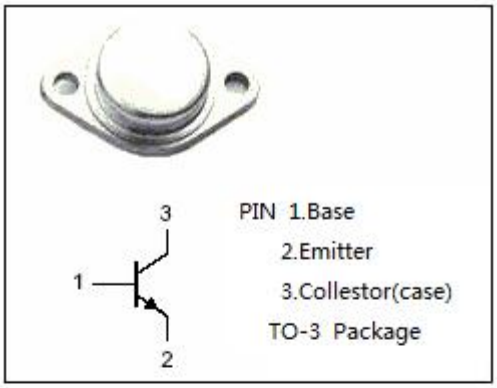
# isc Silicon NPN Power Transistor — 2SC2965

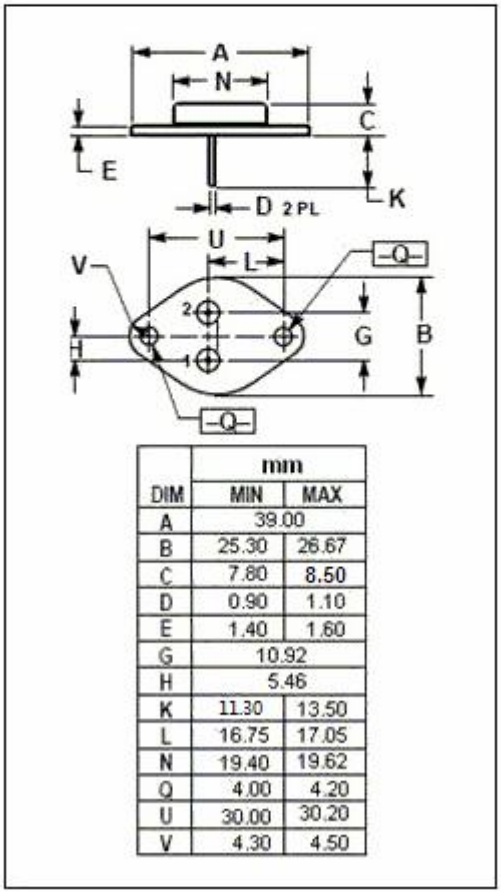
## DESCRIPTION

- Excellent Safe Operating Area
- Low Collector-Emitter Saturation Voltage
- Minimum Lot-to-Lot variations for robust device Performance and reliable operation.




## APPLICATIONS

- Switching regulator
- Motor controls
- Deflections circuits




| DIM | mm MIN | MAX |
|---|---|---|
| A | 39.00 | |
| B | 25.30 | 26.67 |
| C | 7.80 | 8.50 |
| D | 0.90 | 1.10 |
| E | 1.40 | 1.60 |
| G | 10.92 | |
| H | 5.46 | |
| K | 11.30 | 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 |

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 600 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 450 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 7 | V |
| $I_C$ | Collector Current-Continuous | 16 | A |
| $I_B$ | Base Current | 5 | A |
| $P_C$ | Collector Power Dissipation@$T_C$=25℃ | 150 | W |
| $T_J$, $T_{stg}$ | Operating and Storage Junction Temperature Range | -65~+175 | ℃ |

## THERMAL CHARACTERISTICS

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

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$=30mA ; $I_B$=0 | 450 | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$=10A; $I_B$= 2A | | 1.5 | V |
| $I_{CEO}$ | Collector Cutoff Current | $V_{CE}$= 450V; $I_B$=0 | | 0.1 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 7V; $I_C$=0 | | 0.1 | mA |
| $h_{FE}$ | DC Current Gain | $I_C$= 10A ; $V_{CE}$= 6V | 7 | 20 | |
| Switching Times | | | | | |
| $t_{on}$ | Turn-On Time | $I_C$= 10A; $I_{B1}$= 2A; $I_{B2}$= -2.0A; | | 0.5 | μs |
| $t_{stg}$ | Storage Time | | | 1.0 | μs |
| $t_f$ | Fall Time | | | 0.3 | μs |

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