$\cdot M \cdot C \cdot C \cdot$

Micro Commercial Components

Micro Commercial Components 20736 Marilla Street Chatsworth CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

## Features

- High DC Current Gain: $\mathrm{h}_{\mathrm{FE}}=600$ Max. $\left(\mathrm{V}_{\mathrm{CE}}=6.0 \mathrm{~V}, \mathrm{l}_{\mathrm{C}}=1.0 \mathrm{~mA}\right)$
- High voltage: $\mathrm{V}_{\text {CEO }}=50 \mathrm{~V}$
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
Maximum Ratings

| Symbol | Rating | Rating | Unit |
| :---: | :--- | :---: | :---: |
| $\mathrm{V}_{\mathrm{CEO}}$ | Collector-Emitter Voltage | 50 | V |
| $\mathrm{~V}_{\mathrm{CBO}}$ | Collector-Base Voltage | 60 | V |
| $\mathrm{~V}_{\text {EBO }}$ | Emitter-Base Voltage | 5.0 | V |
| $\mathrm{I}_{\mathrm{C}}$ | Collector Current | 100 | mA |
| $\mathrm{P}_{\mathrm{C}}$ | Collector power dissipation | 200 | mW |
| $\mathrm{~T}_{\mathrm{J}}$ | Junction Temperature | -55 to +150 | ${ }^{\circ} \mathrm{C}$ |
| $\mathrm{T}_{\mathrm{STG}}$ | Storage Temperature | -55 to +150 | ${ }^{\circ} \mathrm{C}$ |

Electrical Characteristics @ 2550 Unless Otherwise Specified

| Symbol | Parameter | Min | Typ | Max | Units |
| :---: | :---: | :---: | :---: | :---: | :---: |

OFF CHARACTERISTICS

| $\mathrm{I}_{\text {CBo }}$ | Collector Cutoff Current <br> $\left(\mathrm{V}_{\mathrm{CB}}=60 \mathrm{Vdc}, \mathrm{I}_{\mathrm{E}}=0\right)$ | --- | --- | 0.1 | uAdc |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{I}_{\text {EBO }}$ | Emitter Cutoff Current <br> $\left(\mathrm{V}_{\mathrm{EB}}=5.0 \mathrm{Vdc}, \mathrm{I}_{\mathrm{C}}=0\right)$ | --- | --- | 0.1 | uAdc |

## ON CHARACTERISTICS

| $\mathrm{h}_{\mathrm{F}}$ | $\begin{aligned} & \text { DC Current Gain } \\ & \left(\mathrm{c}=1.0 \mathrm{mAdc}, \mathrm{~V}_{\mathrm{CE}}=6.0 \mathrm{Vdc}\right) \end{aligned}$ | 200 | --- | 600 | --- |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{V}_{\text {CE(sat) }}$ | Collector Saturation Voltage* ( $\mathrm{l}=100 \mathrm{mAdc}, \mathrm{b}=10 \mathrm{mAdc}$ ) | --- | 0.15 | 0.3 | Vdc |
| $\mathrm{V}_{\text {BE(SAT) }}$ | Base Saturation Voltage* $(\mathrm{l}=100 \mathrm{mAdc}, \mathrm{~b}=10 \mathrm{mAdc})$ | --- | 0.86 | 1.0 | Vdc |
| $\mathrm{V}_{\mathrm{BE}}$ | Base Emitter Voltage* $\left(V_{\mathrm{CE}}=6.0 \mathrm{Vdc}, \mathrm{t}=1.0 \mathrm{mAdc}\right)$ | 0.55 | 0.62 | 0.65 | Vdc |
| $\mathrm{C}_{\text {ob }}$ | Collector Capacitance $\left(\mathrm{V}_{\mathrm{CB}}=6.0 \mathrm{Vdc}, \mathrm{I}_{\mathrm{E}}=0, \mathrm{f}=1.0 \mathrm{MHz}\right)$ | --- | 3.0 | -- | pF |
| $\mathrm{f}_{\mathrm{T}}$ | Gain Bandwidth product ( $\mathrm{V}_{\mathrm{CE}}=6.0 \mathrm{Vdc}, \mathrm{I}_{\mathrm{E}}=10 \mathrm{mAdc}$ ) | -- | 250 | --- | MHz |

## he CLASSIFICATION

| Marking | L6 | L7 |
| :---: | :---: | :---: |
| $\mathrm{h}_{\text {FE }}$ | $200-400$ | $400-600$ |

* Pulse Test PW<350us, duty cycle<2\%


## NPN Silicon <br> Epitaxial Transistors

| DIMENSIONS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| DIM | INCHES |  | MM |  | NOTE |
|  | MIN | MAX | MIN | MAX |  |
| A | . 110 | . 120 | 2.80 | 3.04 |  |
| B | . 083 | . 098 | 2.10 | 2.64 |  |
| C | . 047 | . 055 | 1.20 | 1.40 |  |
| D | . 035 | . 041 | . 89 | 1.03 |  |
| E | . 070 | . 081 | 1.78 | 2.05 |  |
| F | . 018 | . 024 | . 45 | . 60 |  |
| G | . 0005 | . 0039 | . 013 | 100 |  |
| H | . 035 | . 044 | 89 | 1.12 |  |
| J | . 003 | . 007 | . 085 | . 180 |  |
| K | . 015 | . 020 | . 37 | . 51 |  |

Suggested Solder
Pad Layout

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