

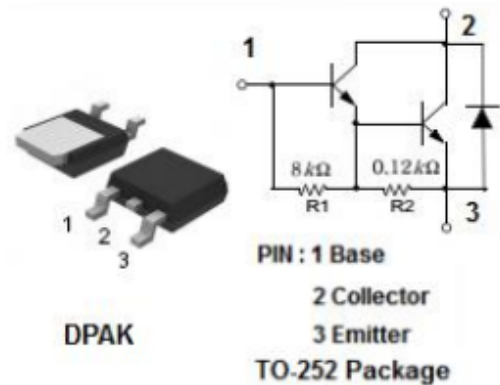
Silicon NPN Darlington Power Transistor

DESCRIPTION

- Low Collector-Emitter saturation voltage
- Lead formed for surface mount applications
- High DC current gain
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for general purpose amplifier and low speed switching applications.



ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------|---|---------|--------------------|
| V_{CBO} | Collector-Base Voltage | 100 | V |
| V_{CEO} | Collector-Emitter Voltage | 100 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current-Continuous | 8 | A |
| P_C | Total Power Dissipation @ $T_a=25^\circ\text{C}$ | 1.75 | W |
| P_C | Collector Power Dissipation $T_C=25^\circ\text{C}$ | 20 | W |
| $R_{th\ j-a}$ | Thermal Resistance, Junction to Ambient | 6. 25 | $^\circ\text{C/W}$ |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS
 $T_c=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------------|--------------------------------------|--|------|-----|-------|---------------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C=30\text{mA}; I_B=0$ | 100 | | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C=4\text{A}; I_B=16\text{mA}$ | | | 2.0 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C=8\text{A}; I_B=80\text{mA}$ | | | 4.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=8\text{A}; I_B=80\text{mA}$ | | | 4.5 | V |
| $V_{BE(ON)}$ | Base-Emitter voltage | $I_C=4\text{A}; V_{CE}=4\text{V}$ | | | 2.8 | V |
| I_{CEO} | Collector Cutoff Current | $V_{CE}=50\text{V}; I_E=0$ | | | 10 | μA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=5\text{V}; I_C=0$ | | | 2 | mA |
| h_{FE1} | DC Current Gain | $I_C=4\text{A}; V_{CE}=4\text{V}$ | 1000 | | 12000 | |
| h_{FE2} | DC Current Gain | $I_C=8\text{A}; V_{CE}=4\text{V}$ | 100 | | | |
| f_T | Current-Gain—Bandwidth Product | $I_C=3\text{A}; V_{CE}=4\text{V}$ | 4 | | | MHz |
| C_{OB} | Output Capacitance | $I_E=0;$ $V_{CB}=10\text{V}; f=1.0\text{MHz}$ | | 200 | | pF |

Package Dimensions

