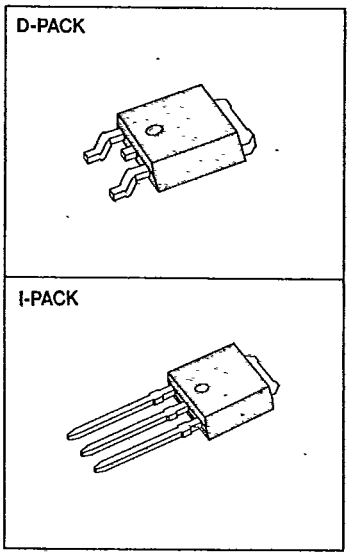
# MJD127 PNP SILICON DARLINGTON TRANSISTOR

T-33-31

## D-PACK FOR SURFACE MOUNT APPLICATIONS

- High DC Current Gain
- Built-in a Damper Diode at E-C
- Lead Formed for Surface Mount Applications (No Suffix)
- Straight Lead (I-PACK, "-1" Suffix)
- Electrically Similar to Popular TIP127



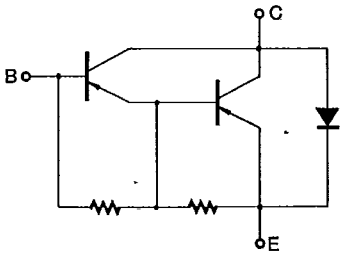

## ABSOLUTE MAXIMUM RATINGS ($T_a = 25°C$)

| Characteristic | Symbol | Rating | Unit |
|---|---|---|---|
| Collector Base Voltage | $V_{CBO}$ | −100 | V |
| Collector Emitter Voltage | $V_{CEO}$ | −100 | V |
| Emitter Base Voltage | $V_{EBO}$ | −5 | V |
| Collector Current (DC) | $I_C$ | −8 | A |
| Collector Current (Pulse) | $I_C$ | −16 | A |
| Base Current | $I_B$ | −120 | A |
| Collector Dissipation ($T_c = 25°C$) | $P_c$ | 20 | W |
| Collector Dissipation ($T_a = 25°C$) | $P_c$ | 1.75 | W |
| Junction Temperature | $T_j$ | 150 | °C |
| Storage Temperature | $T_{stg}$ | −65~150 | °C |

## ELECTRICAL CHARACTERISTICS ($T_a = 25°C$)

| Characteristic | Symbol | Test Condition | Min | Max | Unit |
|---|---|---|---|---|---|
| *Collector Emitter Sustaining Voltage | $V_{CEO}(sus)$ | $I_C = -30mA$, $I_B = 0$ | −100 | | V |
| Collector Cutoff Current | $I_{CEO}$ | $V_{CE} = -50V$, $I_B = 0$ | | −10 | μA |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB} = -100V$, $I_E = 0$ | | −10 | μA |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB} = -5V$, $I_C = 0$ | | −2 | mA |
| *DC Current Gain | $h_{FE}$ | $V_{CE} = -4V$, $I_C = -4A$ | 1000 | 12K | |
| | | $V_{CE} = -4V$, $I_C = -8A$ | 100 | | |
| *Collector Emitter Saturation Voltage | $V_{CE}(sat)$ | $I_C = -4A$, $I_B = -16mA$ | | −2 | V |
| | | $I_C = -8A$, $I_B = -80mA$ | | −4 | V |
| *Base Emitter Saturation Voltage | $V_{BE}(sat)$ | $I_C = -8A$, $I_B = -80mA$ | | −4.5 | V |
| *Base Emitter On Voltage | $V_{BE}(on)$ | $V_{CE} = -4A$, $I_C = -4A$ | | −2.8 | V |
| Output Capacitance | $C_{OB}$ | $V_{CB} = -10V$, $I_E = 0$ f = 0.1MHz | | 300 | pF |

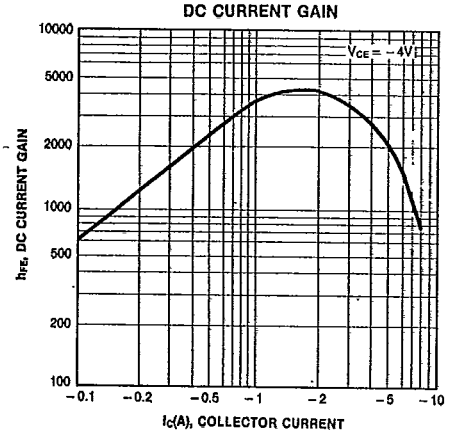
* Pulse Test: PW≤300μS, Duty Cycle≤2%



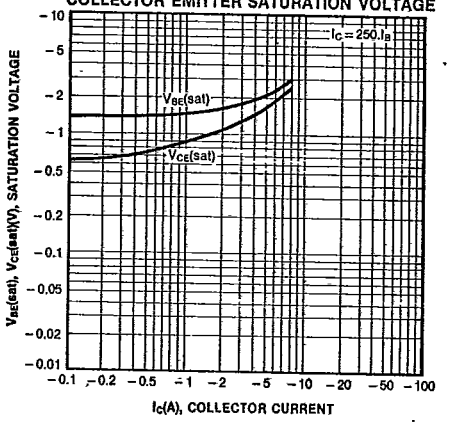
# MJD127 PNP SILICON DARLINGTON TRANSISTOR

T-33-31

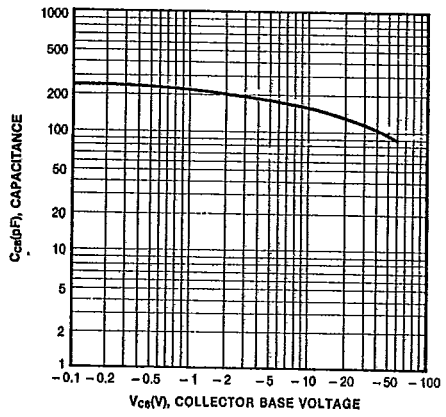
DC CURRENT GAIN



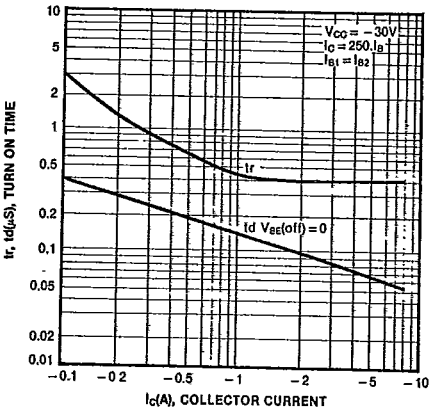

BASE EMITTER SATURATION VOLTAGE
COLLECTOR EMITTER SATURATION VOLTAGE



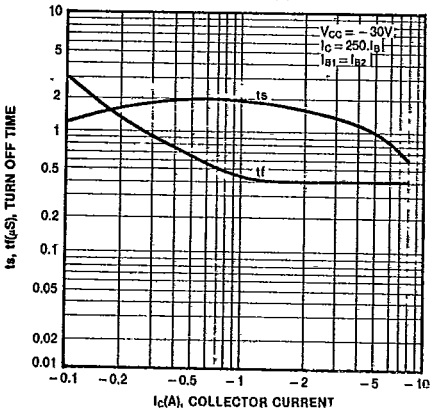

COLLECTOR OUTPUT CAPACITANCE



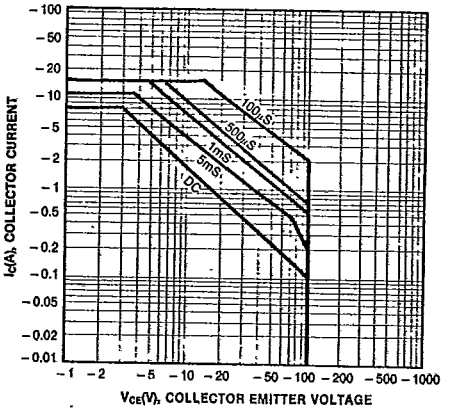

TURN ON TIME




TURN OFF TIME




SAFE OPERATING AREA



# MJD127 PNP SILICON DARLINGTON TRANSISTOR

T-33-31