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Micro Commercial Components

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# MJD127

## Silicon PNP epitaxial planer Transistors

### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Case Material:Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- High DC Current Gain
- Electrically similar to popular TIP 127
- Built-in a damper diode at E-C
- Maximum Thermal Resistance: 83.3°C/W Junction to Ambient

### Maximum Ratings @ 25°C Unless Otherwise Specified

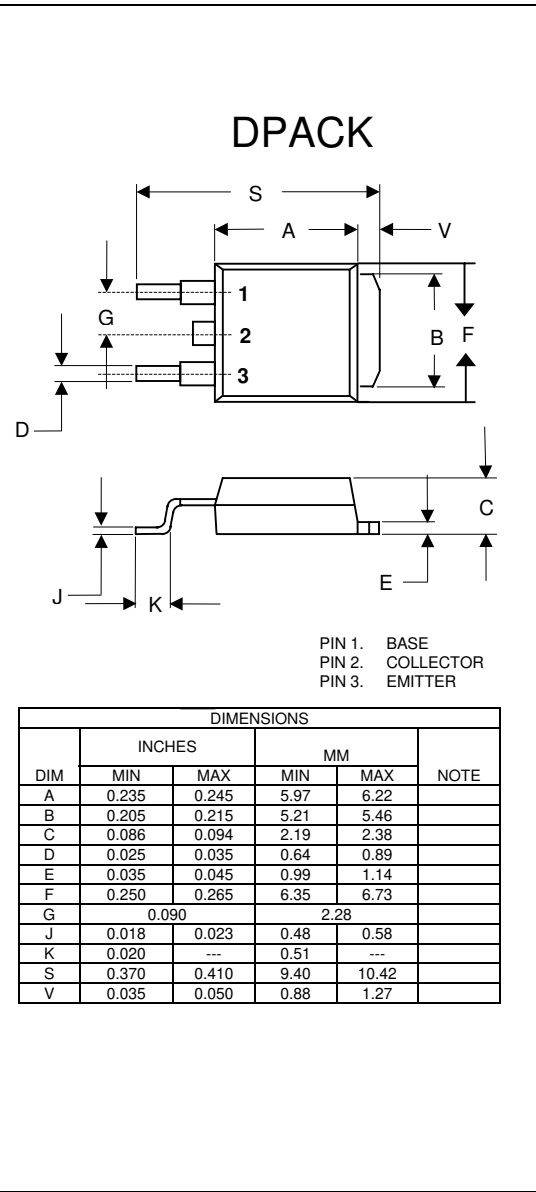
| Symbol           | Rating                         | Rating      | Unit |
|------------------|--------------------------------|-------------|------|
| V <sub>CEO</sub> | Collector-Emitter Voltage      | -100        | V    |
| V <sub>CB0</sub> | Collector-Base Voltage         | -100        | V    |
| V <sub>EBO</sub> | Emitter-Base Voltage           | -5          | V    |
| I <sub>C</sub>   | Collector Current-Continuous   | -8          | A    |
| P <sub>C</sub>   | Collector Dissipation          | 1.5         | W    |
| T <sub>J</sub>   | Operating Junction Temperature | 150         | °C   |
| T <sub>STG</sub> | Storage Temperature            | -55 to +150 | °C   |

### Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol               | Parameter   | Min         | Typ  | Max      | Units |
|----------------------|---|-------------|------|----------|-------|
| V <sub>(BR)CEO</sub> | Collector-Emitter Breakdown Voltage<br>(I <sub>C</sub> =-30mAdc, I <sub>B</sub> =0)   | -100        | ---  | ---      | Vdc   |
| V <sub>(BR)CBO</sub> | Collector-Base Breakdown Voltage<br>(I <sub>C</sub> =-1mAdc, I <sub>E</sub> =0)   | -100        | ---  | ---      | Vdc   |
| V <sub>(BR)EBO</sub> | Collector-Emitter Breakdown Voltage<br>(I <sub>E</sub> =-1mAdc, I <sub>C</sub> =0)  | -5          | ---  | ---      | Vdc   |
| I <sub>CBO</sub>     | Collector Cutoff Current<br>(V <sub>CB</sub> =-100Vdc, I <sub>E</sub> =0)   | ---         | ---  | -10      | nAdc  |
| I <sub>CEX</sub>     | Collector emitter cutoff Current<br>(V <sub>CB</sub> =-100Vdc, V <sub>BE(off)</sub> =1.5V)  | ---         | ---  | -10      | nAdc  |
| I <sub>EBO</sub>     | Emitter Cutoff Current<br>(V <sub>EB</sub> =-5Vdc, I <sub>C</sub> =0)   | ---         | ---  | -2       | nAdc  |
| h <sub>FE</sub>      | DC Current Gain<br>(I <sub>C</sub> =-4Adc, V <sub>CE</sub> =-4Vdc)<br>(I <sub>C</sub> =-8Adc, V <sub>CE</sub> =-4Vdc)   | 1000<br>100 | ---  | 12000    |       |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage<br>(I <sub>C</sub> =-4Adc, I <sub>B</sub> =-16mAdc) (note 1)<br>(I <sub>C</sub> =-8Adc, I <sub>B</sub> =-80mAdc)(note 1) | ---         | ---- | -2<br>-4 | Vdc   |
| V <sub>BE(sat)</sub> | Base-Emitter Saturation Voltage<br>(I <sub>C</sub> =-8Adc, I <sub>B</sub> =-80mAdc) (note 1)  | ---         | ---- | -4.5     | Vdc   |
| V <sub>BE</sub>      | Base-Emitter Saturation Voltage<br>(I <sub>C</sub> =-4Adc, V <sub>CE</sub> =-4Vdc) (note 1)   | ---         | ---- | -2.8     | Vdc   |
| C <sub>ob</sub>      | Output Capacitance<br>(V <sub>CB</sub> =-10Vdc, f=0.1MHz, I <sub>E</sub> =0)  | ---         | ---  | 300      | pF    |

**Note:**

1.Pulse Test: Pulse Width≤380μs, Duty Cycle≤2%



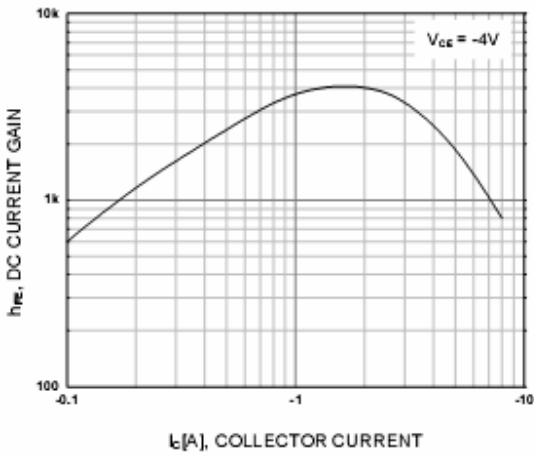


Figure 1. DC current Gain

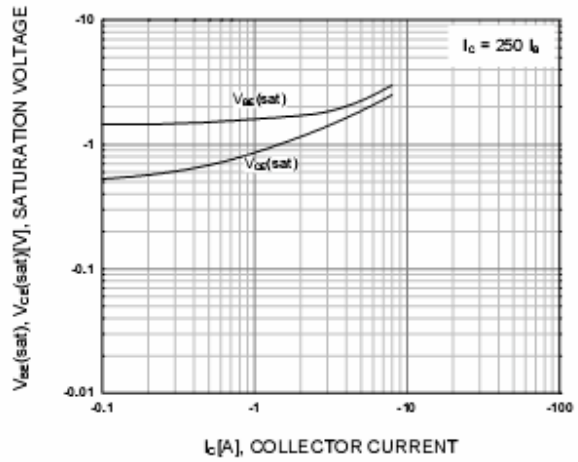


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

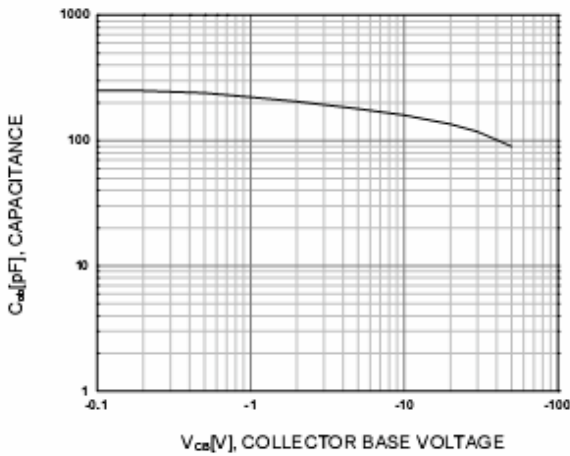


Figure 3. Collector Output Capacitance

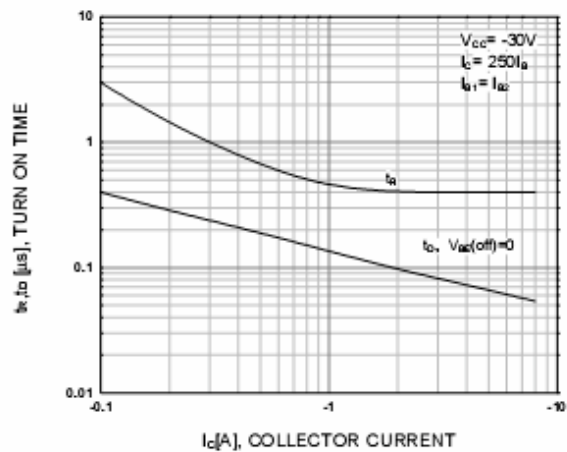


Figure 4. Turn On Time

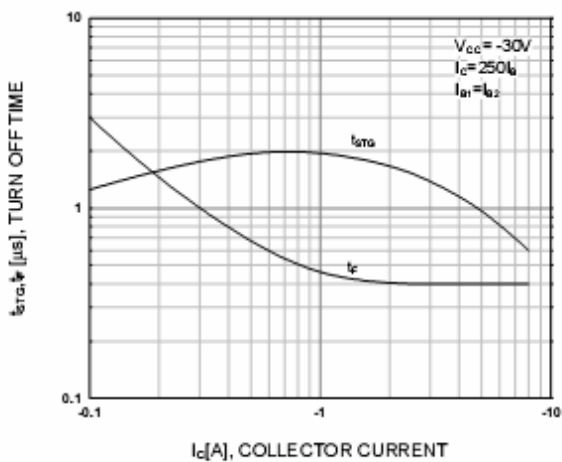


Figure 5. Turn Off Time

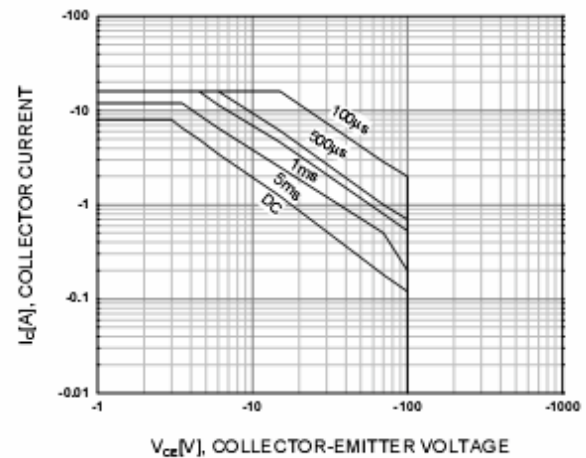


Figure 6. Safe Operating Area



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## Ordering Information

|                  |                        |
|------------------|------------------------|
| Device           | Packing                |
| (Part Number)-TP | Tape&Reel;2.5Kpcs/Reel |

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