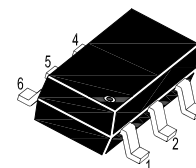
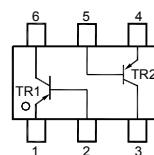


## PNP Silicon Epitaxial Planar Transistor

for high voltage amplifier applications



1. Emitter 2. Base 3. Collector  
4. Emitter 5. Base 6. Collector

### ■ Simplified outline(SOT-363)

### ■ Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter                    | Symbol            | Value         | Unit             |
|------------------------------|-------------------|---------------|------------------|
| Collector Base Voltage       | $-V_{\text{CBO}}$ | 160           | V                |
| Collector Emitter Voltage    | $-V_{\text{CEO}}$ | 150           | V                |
| Emitter Base Voltage         | $-V_{\text{EBO}}$ | 5             | V                |
| Collector Current Continuous | $-I_{\text{C}}$   | 600           | mA               |
| Power Dissipation            | $P_{\text{tot}}$  | 200           | mW               |
| Junction Temperature         | $T_{\text{j}}$    | 150           | $^\circ\text{C}$ |
| Storage Temperature Range    | $T_{\text{stg}}$  | - 55 to + 150 | $^\circ\text{C}$ |

### ■ Characteristics at $T_a = 25^\circ\text{C}$

| Parameter   | Symbol  | Min.           | Max.          | Unit        |
|---|---|----------------|---------------|-------------|
| DC Current Gain<br>at $-V_{\text{CE}} = 5\text{ V}$ , $-I_{\text{C}} = 1\text{ mA}$<br>at $-V_{\text{CE}} = 5\text{ V}$ , $-I_{\text{C}} = 10\text{ mA}$<br>at $-V_{\text{CE}} = 5\text{ V}$ , $-I_{\text{C}} = 50\text{ mA}$ | $h_{\text{FE}}$<br>$h_{\text{FE}}$<br>$h_{\text{FE}}$ | 50<br>60<br>50 | -<br>240<br>- | -<br>-<br>- |
| Collector Base Cutoff Current<br>at $-V_{\text{CB}} = 120\text{ V}$   | $-I_{\text{CBO}}$                                     | -              | 50            | nA          |
| Emitter Base Cutoff Current<br>at $-V_{\text{EB}} = 3\text{ V}$   | $-I_{\text{EBO}}$                                     | -              | 50            | nA          |
| Collector Base Breakdown Voltage<br>at $-I_{\text{C}} = 100\text{ }\mu\text{A}$   | $-V_{(\text{BR})\text{CBO}}$                          | 160            | -             | V           |
| Collector Emitter Breakdown Voltage<br>at $-I_{\text{C}} = 1\text{ mA}$   | $-V_{(\text{BR})\text{CEO}}$                          | 150            | -             | V           |
| Emitter Base Breakdown Voltage<br>at $-I_{\text{E}} = 10\text{ }\mu\text{A}$  | $-V_{(\text{BR})\text{EBO}}$                          | 5              | -             | V           |
| Collector Emitter Saturation Voltage<br>at $-I_{\text{C}} = 10\text{ mA}$ , $-I_{\text{B}} = 1\text{ mA}$<br>at $-I_{\text{C}} = 50\text{ mA}$ , $-I_{\text{B}} = 5\text{ mA}$  | $-V_{\text{CE}(\text{sat})}$                          | -<br>-         | 0.2<br>0.5    | V           |
| Base Emitter Saturation Voltage<br>at $-I_{\text{C}} = 10\text{ mA}$ , $-I_{\text{B}} = 1\text{ mA}$<br>at $-I_{\text{C}} = 50\text{ mA}$ , $-I_{\text{B}} = 5\text{ mA}$   | $-V_{\text{BE}(\text{sat})}$                          | -<br>-         | 1<br>1        | V           |
| Gain Bandwidth Product<br>at $-V_{\text{CE}} = 10\text{ V}$ , $-I_{\text{C}} = 10\text{ mA}$ , $f = 100\text{ MHz}$   | $f_{\text{T}}$  | 100            | 300           | MHz         |
| Output Capacitance<br>at $-V_{\text{CB}} = 10\text{ V}$ , $f = 1\text{ MHz}$  | $C_{\text{obo}}$                                      | -              | 6             | pF          |

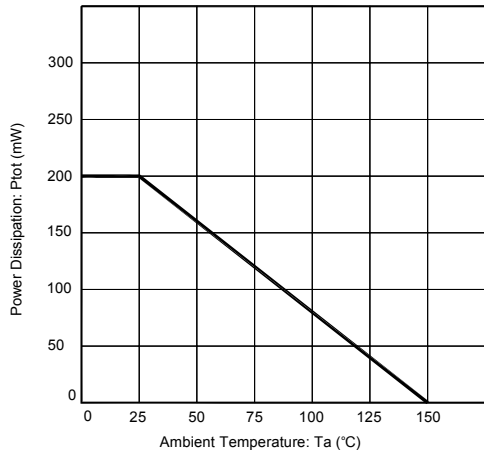


Fig. 1 Max Power Dissipation vs Ambient Temperature

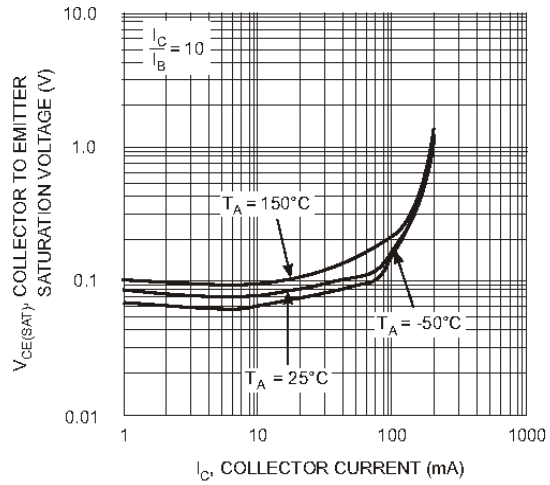


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

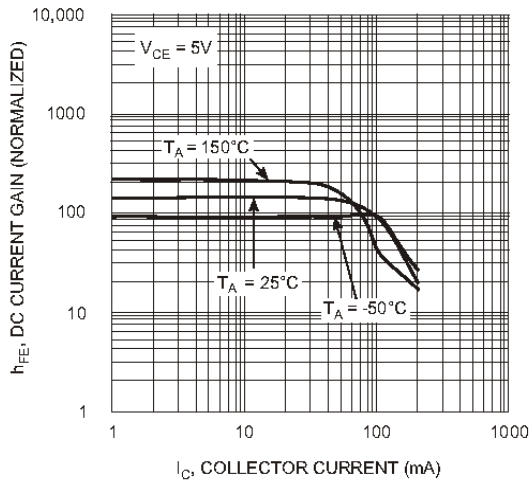


Fig. 3, DC Current Gain vs. Collector Current

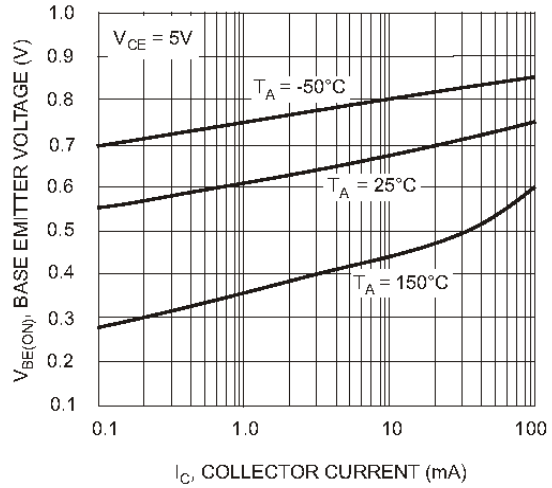


Fig. 4, Base Emitter Voltage vs. Collector Current

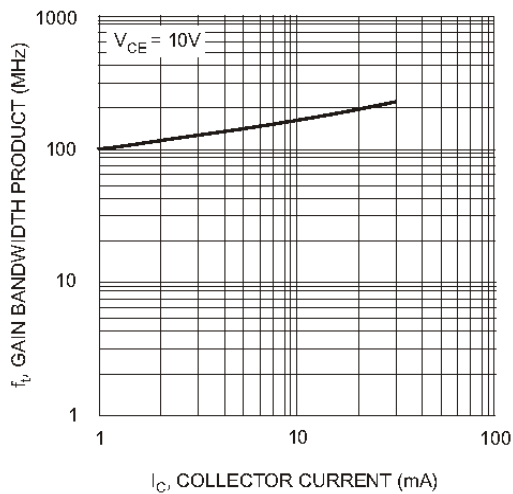
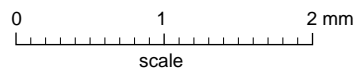
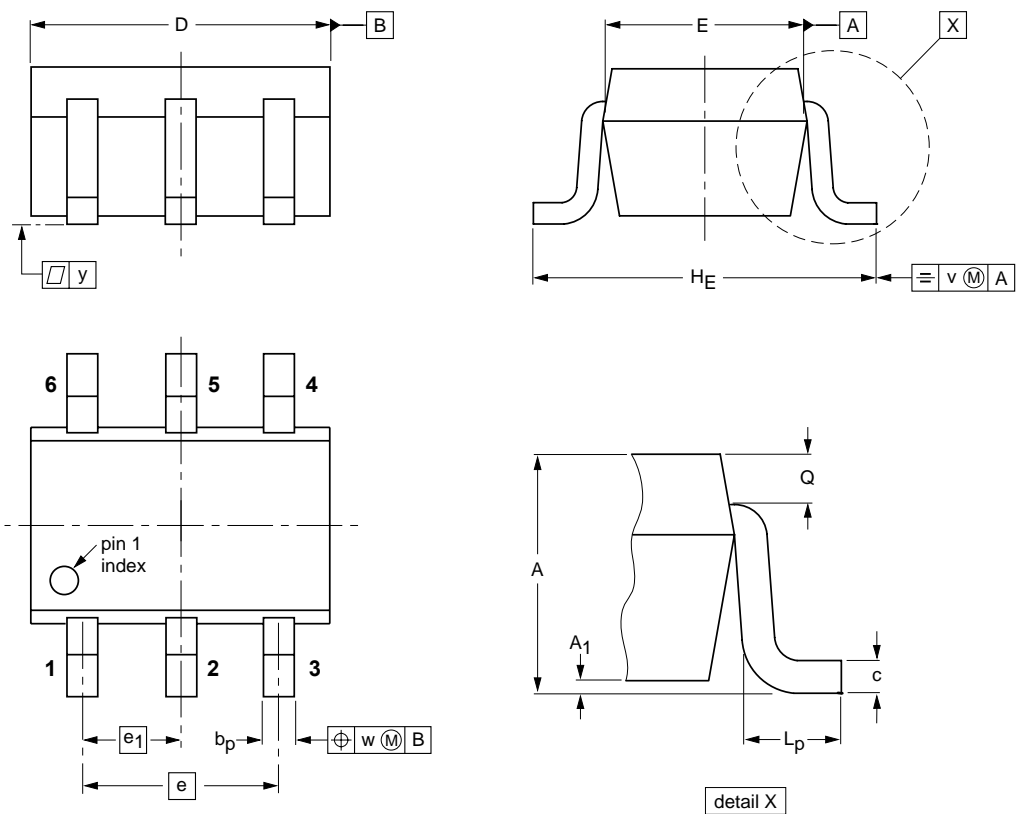


Fig. 5, Gain Bandwidth Product vs Collector Current

■ SOT-363



**DIMENSIONS (mm are the original dimensions)**

| UNIT | A          | A <sub>1</sub><br>max | b <sub>p</sub> | c            | D          | E            | e   | e <sub>1</sub> | H <sub>E</sub> | L <sub>p</sub> | Q            | v   | w   | y   |
|------|------------|-----------------------|----------------|--------------|------------|--------------|-----|----------------|----------------|----------------|--------------|-----|-----|-----|
| mm   | 1.1<br>0.8 | 0.1                   | 0.30<br>0.20   | 0.25<br>0.10 | 2.2<br>1.8 | 1.35<br>1.15 | 1.3 | 0.65           | 2.2<br>2.0     | 0.45<br>0.15   | 0.25<br>0.15 | 0.2 | 0.2 | 0.1 |

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