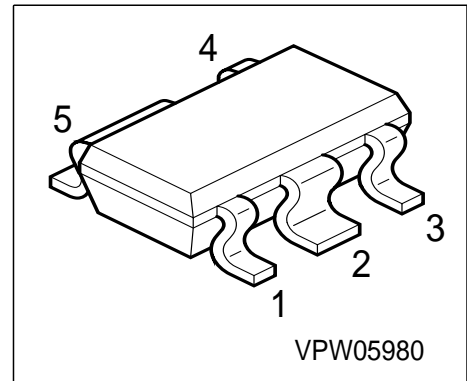


PNP Silicon AF Power Transistor

Preliminary data

- Drain switch for RF power amplifier stages
- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage



| Type | Marking | Ordering Code | Pin Configuration | | | | | Package |
|---------|---------|---------------|-------------------|-------|-------|-------|-------|---------|
| BCP 72M | PAs | Q62702-C2517 | 1 = E | 2 = C | 3 = E | 4 = B | 5 = C | SCT-595 |

Maximum Ratings

| Parameter | Symbol | Value | Unit |
|---|-----------|------------|------------------|
| Collector-emitter voltage | V_{CEO} | 10 | V |
| Collector-base voltage | V_{CBO} | 10 | |
| Emitter-base voltage | V_{EBO} | 5 | |
| DC collector current | I_C | 3 | A |
| Peak collector current | I_{CM} | 6 | |
| Base current | I_B | 200 | mA |
| Peak base current | I_{BM} | 500 | |
| Total power dissipation, $T_S \leq 94 \text{ }^\circ\text{C}$ | P_{tot} | 1.7 | W |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -65...+150 | |

Thermal Resistance

| | | | |
|--------------------------------|------------|-----------|-----|
| Junction ambient ¹⁾ | R_{thJA} | ≤ 88 | K/W |
| Junction - soldering point | R_{thJS} | ≤ 33 | |

1) Package mounted on pcb 40mm x 40mm x 1.5mm / 6cm² Cu

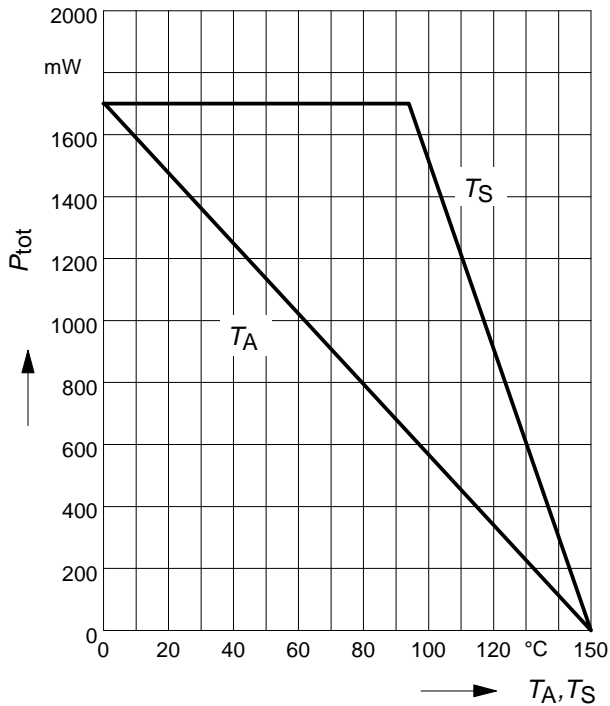
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified.

| Parameter | Symbol | Values | | | Unit |
|--|---------------|----------------|-------------|---------------|---------------|
| | | min. | typ. | max. | |
| DC Characteristics | | | | | |
| Collector-emitter breakdown voltage $I_C = 10 \text{ mA}, I_B = 0$ | $V_{(BR)CEO}$ | 10 | - | - | V |
| Collector-base breakdown voltage $I_C = 100 \mu\text{A}, I_B = 0$ | $V_{(BR)CBO}$ | 10 | - | - | |
| Emitter-base breakdown voltage $I_E = 10 \mu\text{A}, I_C = 0$ | $V_{(BR)EBO}$ | 5 | - | - | |
| Collector cutoff current $V_{CB} = 8 \text{ V}, I_E = 0$ | I_{CBO} | - | - | 100 | nA |
| Collector cutoff current $V_{CB} = 8 \text{ V}, I_E = 0, T_A = 150^\circ\text{C}$ | I_{CBO} | - | - | 20 | μA |
| Emitter cutoff current $V_{EB} = 4 \text{ V}, I_C = 0$ | I_{EBO} | - | - | 100 | nA |
| DC current gain 1) $I_C = 10 \text{ mA}, V_{CE} = 5 \text{ V}$ $I_C = 500 \text{ mA}, V_{CE} = 1 \text{ V}$ $I_C = 2 \text{ A}, V_{CE} = 2 \text{ V}$ | h_{FE} | 25 85 50 | - - - | - 475 - | - |
| Collector-emitter saturation voltage1) $I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$ | V_{CEsat} | - | 0.15 | - | V |
| Base-emitter saturation voltage 1) $I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$ | V_{BEsat} | - | - | 1.2 | |
| AC Characteristics | | | | | |
| Transition frequency $I_C = 50 \text{ mA}, V_{CE} = 10 \text{ V}, f = 100 \text{ MHz}$ | f_T | - | 100 | - | MHz |
| Collector-base capacitance $V_{CB} = 10 \text{ V}, f = 1 \text{ MHz}$ | C_{cb} | - | 100 | - | pF |

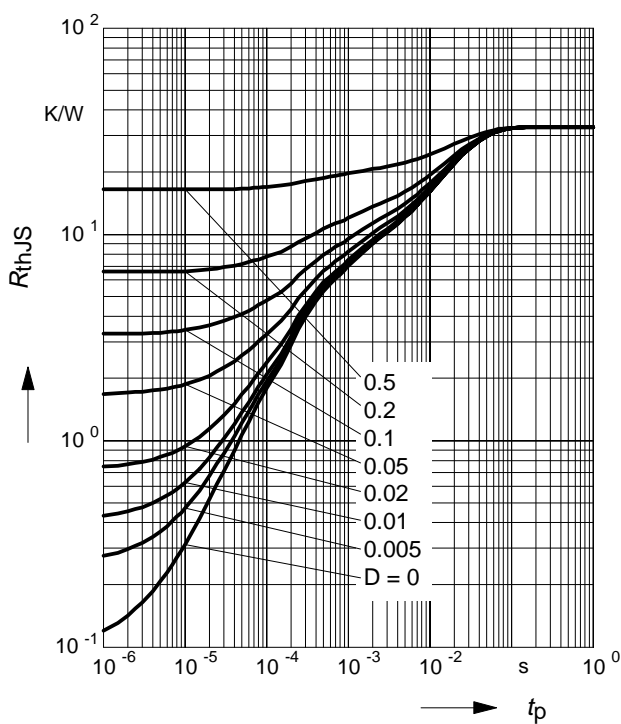
1) Pulse test: $t < 300\mu\text{s}; D < 2\%$

Total power dissipation $P_{\text{tot}} = f(T_A^*; T_S)$

* Package mounted on epoxy

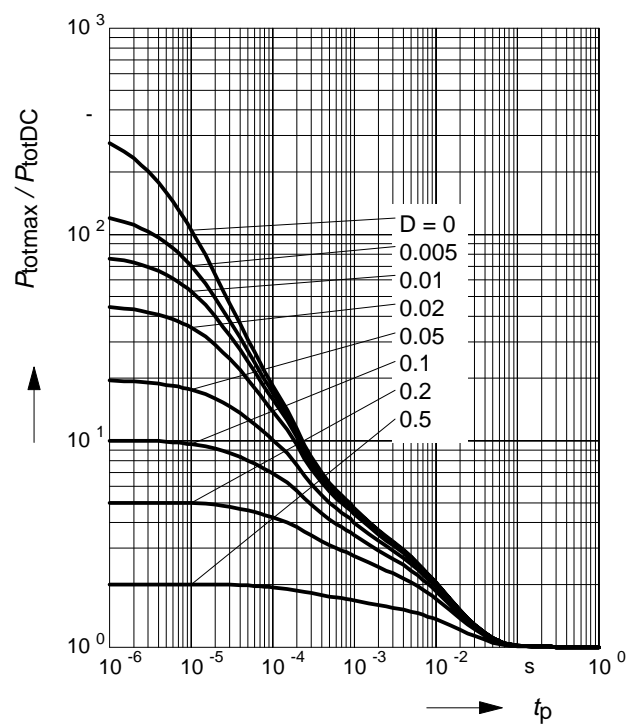


Permissible Pulse Load $R_{\text{thJS}} = f(t_p)$



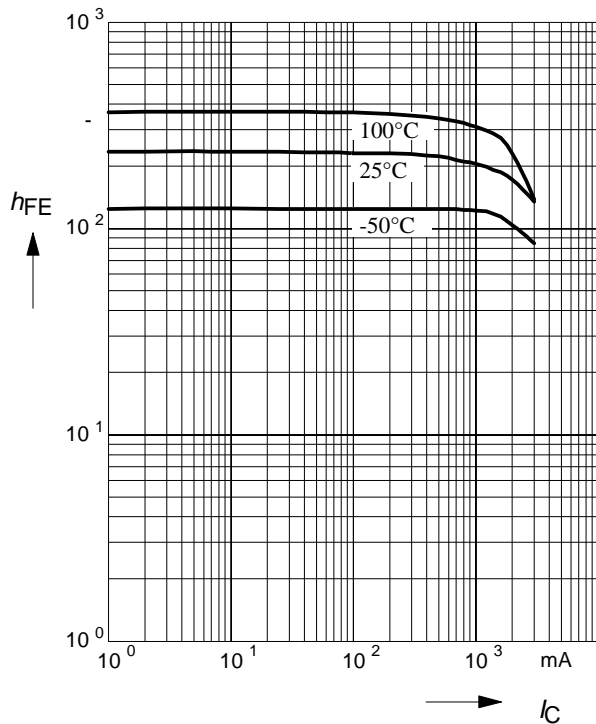
Permissible Pulse Load

$$P_{\text{totmax}} / P_{\text{totDC}} = f(t_p)$$



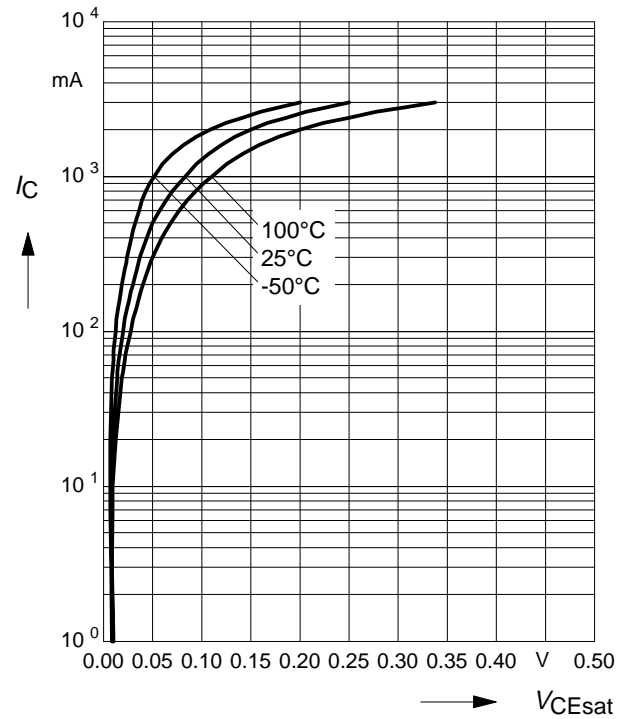
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 2V$



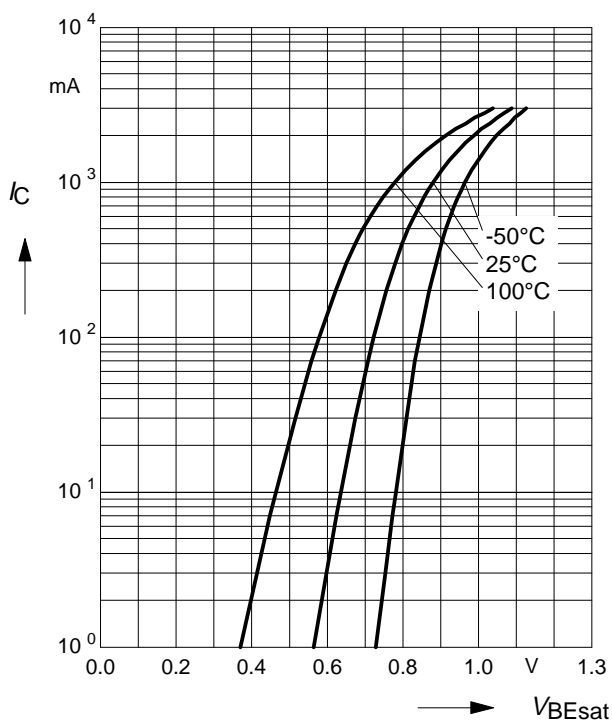
Collector-emitter saturation voltage

$I_C = f(V_{CEsat}), h_{FE} = 10$



Base-emitter saturation voltage

$I_C = f(V_{BEsat}), h_{FE} = 10$



Collector current $I_C = f(V_{BE})$

$V_{CE} = 2V$

