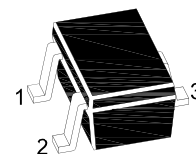


## PNP Silicon Epitaxial Planar Transistor

TRANSISTOR (PNP)

### FEATURES

- Reduces Board Space
- High  $h_{FE}$
- Low  $V_{CE(sat)}$



1.Base 2.Emitter 3.Collector  
SOT-523 Plastic Package

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

| Parameter                 | Symbol     | Value         | Unit             |
|---------------------------|------------|---------------|------------------|
| Collector Base Voltage    | $-V_{CBO}$ | 60            | V                |
| Collector Emitter Voltage | $-V_{CEO}$ | 50            | V                |
| Emitter Base Voltage      | $-V_{EBO}$ | 6             | V                |
| Collector Current         | $-I_C$     | 150           | mA               |
| Power Dissipation         | $P_{tot}$  | 150           | mW               |
| Junction Temperature      | $T_j$      | 150           | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{stg}$  | - 55 to + 150 | $^\circ\text{C}$ |

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

| Parameter                                                                                                    | Symbol         | Min. | Typ. | Max. | Unit |
|--------------------------------------------------------------------------------------------------------------|----------------|------|------|------|------|
| DC Current Gain<br>at $-V_{CE} = 6\text{ V}$ , $-I_C = 1\text{ mA}$<br><br>Current Gain Group    Q<br>R<br>S | $h_{FE}$       | 120  | -    | 270  | -    |
|                                                                                                              | $h_{FE}$       | 180  | -    | 390  | -    |
|                                                                                                              | $h_{FE}$       | 270  | -    | 560  | -    |
|                                                                                                              |                |      |      |      |      |
| Collector Base Cutoff Current<br>at $-V_{CB} = 60\text{ V}$                                                  | $-I_{CBO}$     | -    | -    | 100  | nA   |
| Emitter Base Cutoff Current<br>at $-V_{EB} = 6\text{ V}$                                                     | $-I_{EBO}$     | -    | -    | 100  | nA   |
| Collector Base Breakdown Voltage<br>at $-I_C = 50\text{ }\mu\text{A}$                                        | $-V_{(BR)CBO}$ | 60   | -    | -    | V    |
| Collector Emitter Breakdown Voltage<br>at $-I_C = 1\text{ mA}$                                               | $-V_{(BR)CEO}$ | 50   | -    | -    | V    |
| Emitter Base Breakdown Voltage<br>at $-I_E = 50\text{ }\mu\text{A}$                                          | $-V_{(BR)EBO}$ | 6    | -    | -    | V    |
| Collector Emitter Saturation Voltage<br>at $-I_C = 50\text{ mA}$ , $-I_B = 5\text{ mA}$                      | $-V_{CE(sat)}$ | -    | -    | 0.5  | V    |
| Collector Output Capacitance<br>at $-V_{CB} = 12\text{ V}$ , $f = 1\text{ MHz}$                              | $C_{ob}$       | -    | -    | 5    | pF   |
| Transition Frequency<br>at $-V_{CE} = 12\text{ V}$ , $I_E = 2\text{ mA}$ , $f = 30\text{ MHz}$               | $f_T$          | -    | 140  | -    | MHz  |

### CLASSIFICATION OF $h_{FE}$

| Rank    | Q       | R       | S       |
|---------|---------|---------|---------|
| Range   | 120-270 | 180-390 | 270-560 |
| Marking | FQ      | FR      | FS      |



CHINA BASE  
INTERNATIONAL

# SOT-523

MMBTSA1774QE\_MMBTSA1774RE\_MMBTSA1774SE



www.china-base.com.hk

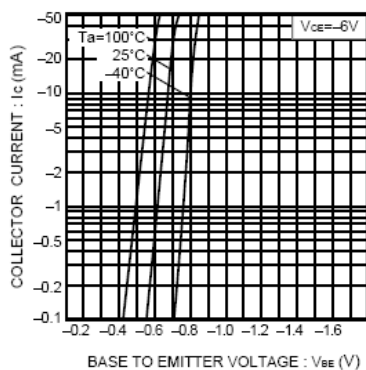


Fig.1 Grounded emitter propagation characteristics

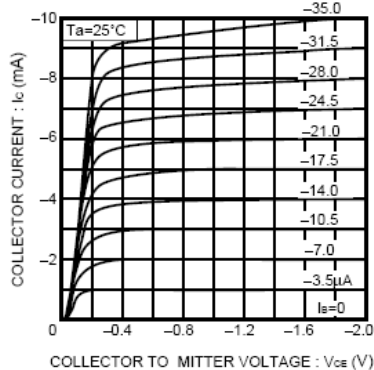


Fig.2 Grounded emitter output characteristics (I)

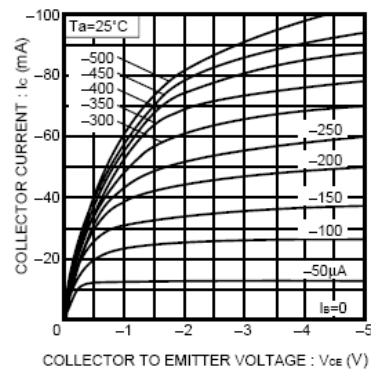


Fig.3 Grounded emitter output characteristics (II)

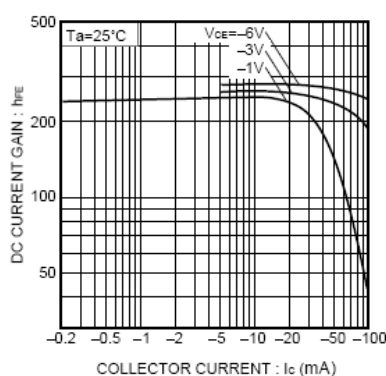


Fig.4 DC current gain vs. collector current (I)

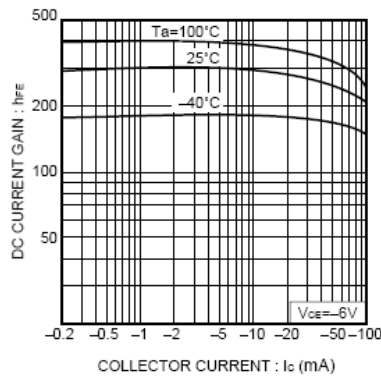


Fig.5 DC current gain vs. collector current (II)

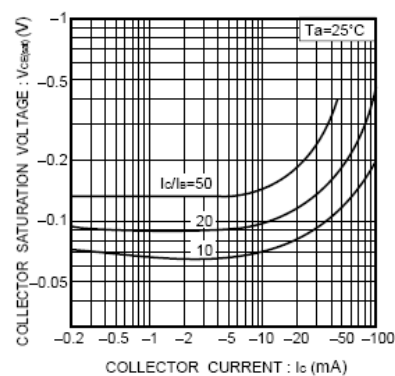


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

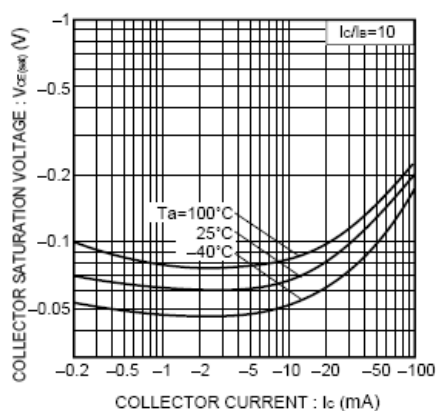


Fig.7 Collector-emitter saturation voltage vs. collector current (II)