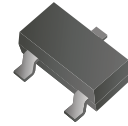
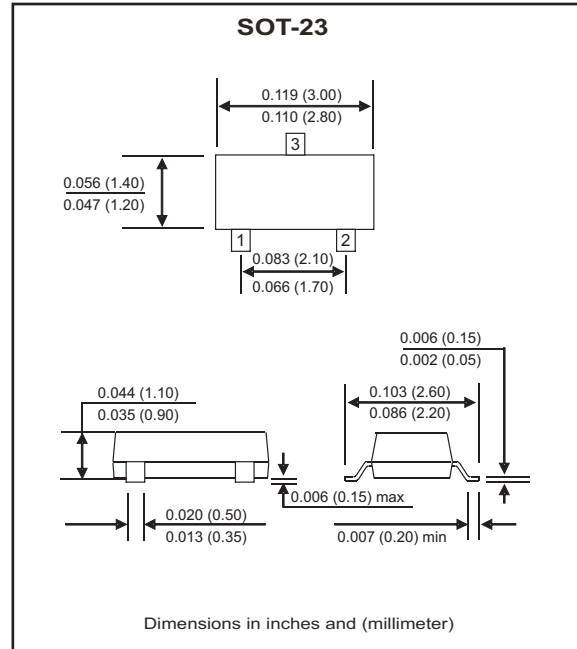
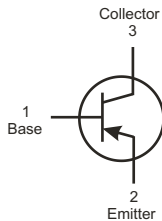


MMBT2907A-G (PNP) RoHS Device



Features

- Epitaxial planar die construction
- Device is designed as a general purpose amplifier and switching.
- Useful dynamic range exceeds to 600mA As a switch and to 100MHz as an amplifier.



Maximum Ratings (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Parameter | Symbol | Min | Typ | Max | Unit |
|--|-----------------|-----|-----|------|----------------------|
| Collector-Base voltage | V_{CBO} | | | -60 | V |
| Collector-Emitter voltage | V_{CEO} | | | -60 | V |
| Emitter-Base voltage | V_{EBO} | | | -5 | V |
| Collector current-Continuous | I_C | | | -0.6 | A |
| Total device dissipation | P_D | | | 0.35 | W |
| Thermal resistance junction to ambient | $R_{\theta JA}$ | | | 357 | $^{\circ}\text{C/W}$ |
| Storage temperature and junction temperature | T_{STG}, T_J | -55 | | +150 | $^{\circ}\text{C}$ |

Electrical Characteristics (at TA=25°C unless otherwise noted)

| Parameter | Conditions | Symbol | Min | Max | Unit |
|--------------------------------------|---|-----------------|-----|------|------|
| Collector-Base breakdown voltage | $I_C = 10\mu A$, $I_E = 0$ | V_{CBO} | -60 | | V |
| Collector-Emitter breakdown voltage | $I_C = 10mA$, $I_B = 0$ | V_{CEO}^* | -60 | | V |
| Emitter-Base breakdown voltage | $I_E = 10\mu A$, $I_C = 0$ | V_{EBO} | -5 | | V |
| Collector cut-off current | $V_{CB} = -50V$, $I_E = 0$ | I_{CBO} | | -20 | nA |
| Base cut-off current | $V_{CE} = -30V$, $V_{EB} = -0.5V$ | I_B | | -50 | nA |
| Collector cut-off current | $V_{CE} = -30V$, $V_{BE} = -0.5V$ | I_{CEX} | | -50 | nA |
| DC current gain | $V_{CE} = -10V$, $I_C = -0.1mA$ | $h_{FE(1)}^*$ | 75 | | |
| | $V_{CE} = -10V$, $I_C = -1mA$ | $h_{FE(2)}^*$ | 100 | | |
| | $V_{CE} = -10V$, $I_C = -10mA$ | $h_{FE(3)}^*$ | 100 | | |
| | $V_{CE} = -10V$, $I_C = -150mA$ | $h_{FE(4)}^*$ | 100 | 300 | |
| | $V_{CE} = -10V$, $I_C = -500mA$ | $h_{FE(5)}^*$ | 50 | | |
| Collector-Emitter saturation voltage | $I_C = -150mA$, $I_B = -15mA$ | $V_{CE(SAT)}^*$ | | -0.4 | V |
| | $I_C = -500mA$, $I_B = -50mA$ | $V_{CE(SAT)}^*$ | | -1.6 | V |
| Base-Emitter saturation voltage | $I_C = -150mA$, $I_B = -15mA$ | $V_{BE(SAT)}^*$ | | -1.3 | V |
| | $I_C = -500mA$, $I_B = -50mA$ | $V_{BE(SAT)}^*$ | | -2.6 | V |
| Transition frequency | $V_{CE} = -20V$, $I_C = -50mA$ $F = 100MHz$ | f_T | 200 | | Mhz |
| Delay time | $V_{CE} = -30V$, $I_C = -150mA$ | t_d | | 10 | nS |
| Rise time | $I_{B1} = I_{B2} = -15mA$ | t_r | | 40 | nS |
| Storage time | $V_{CE} = -6V$, $I_C = -150mA$ | t_s | | 80 | nS |
| Fall time | $I_{B1} = I_{B2} = -15mA$ | t_f | | 30 | nS |

* Pulse test: $t_p \leq 300\mu S$, $\delta \leq 0.02$

RATING AND CHARACTERISTIC CURVES (MMBT2907A-G)

Fig.1 Typical pulsed current gain V.S. Collector current

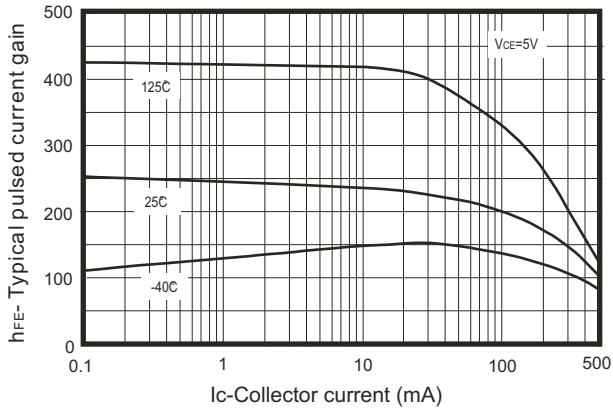


Fig.2 Collector-Emitter saturation voltage V.S. Collector current

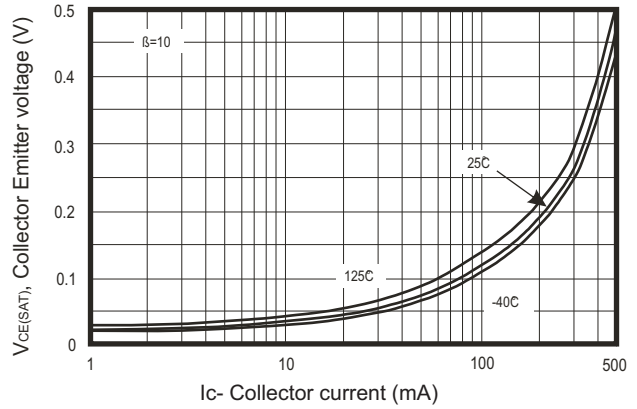


Fig.3 Base-Emitter saturation Voltage V.S. Collector current

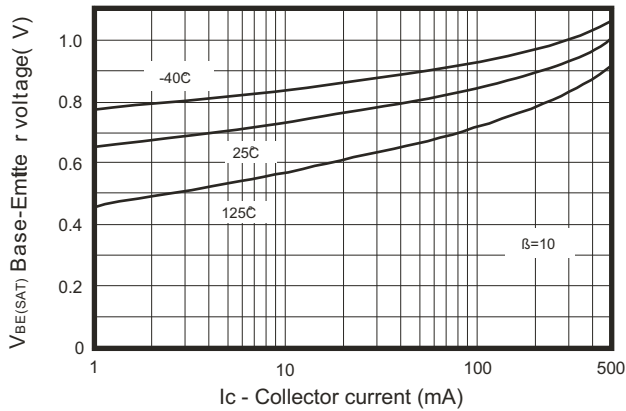


Fig.4 Base emitter ON voltage V.S. Collector current

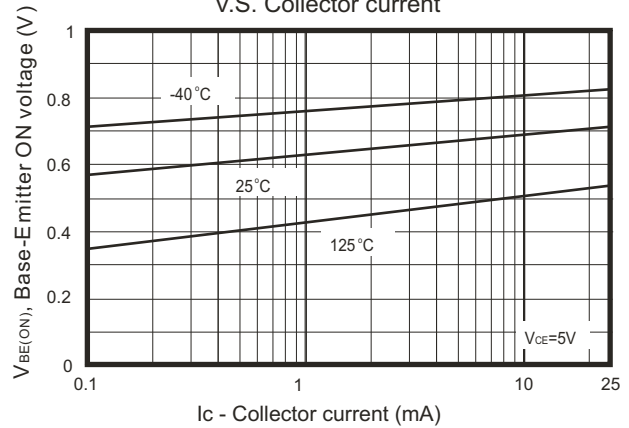


Fig.5 Collector-Cutoff current V.S. Ambient temperature

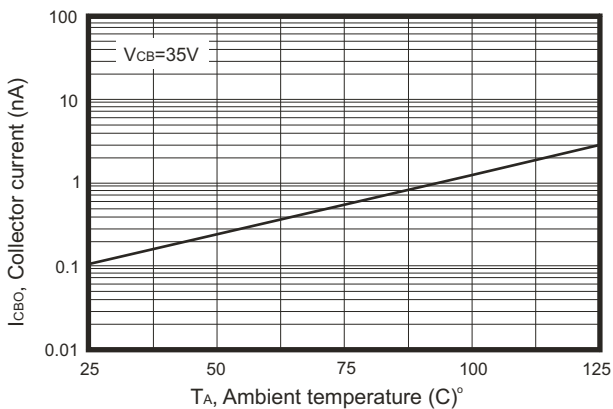
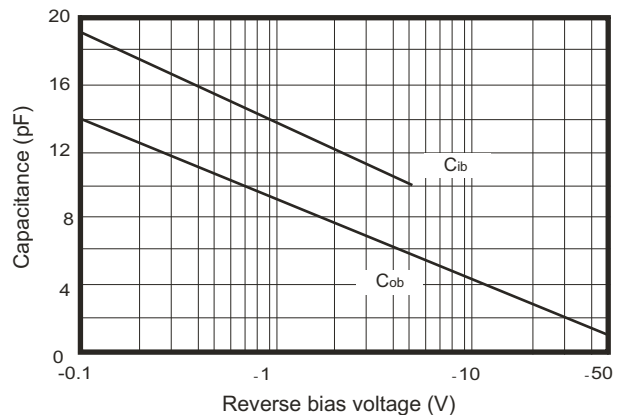


Fig.6 Input and output capacitance V.S. reverse bias voltage



RATING AND CHARACTERISTIC CURVES (MMBT2907A-G)

Fig.7 Switching times
V.S collector current

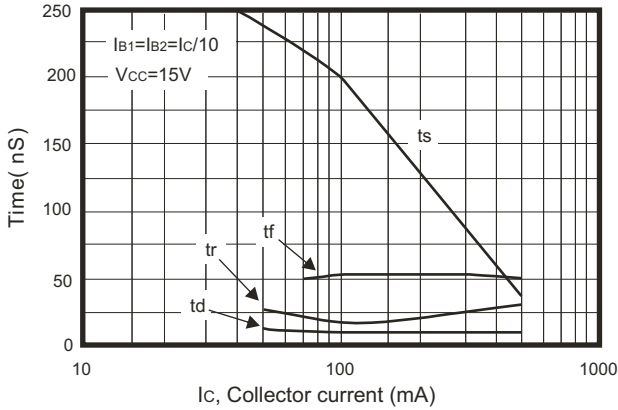


Fig.8 Turn on and turn off times
V.S collector current

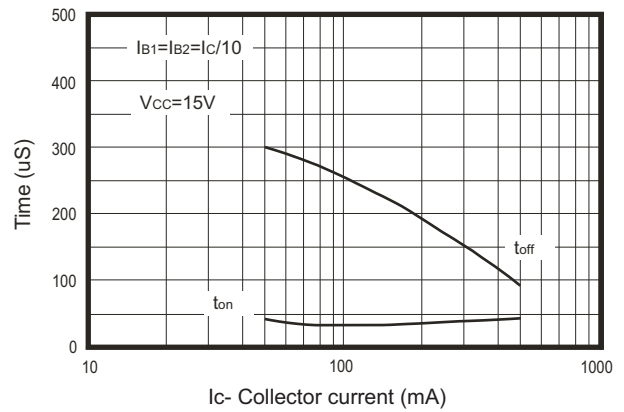


Fig.9 Rise time V.S. Collector
and turn on base currents

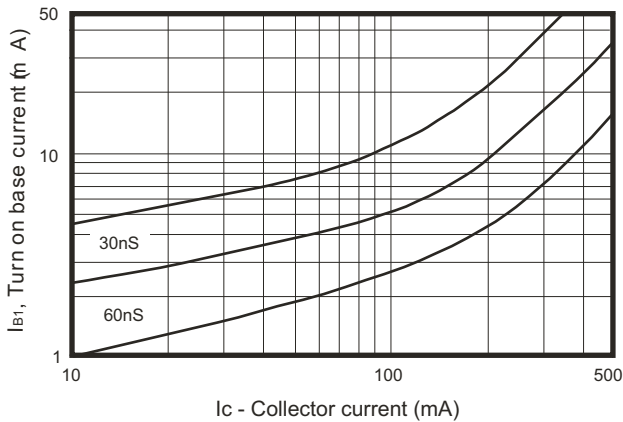


Fig.10 Common emitter characteristics

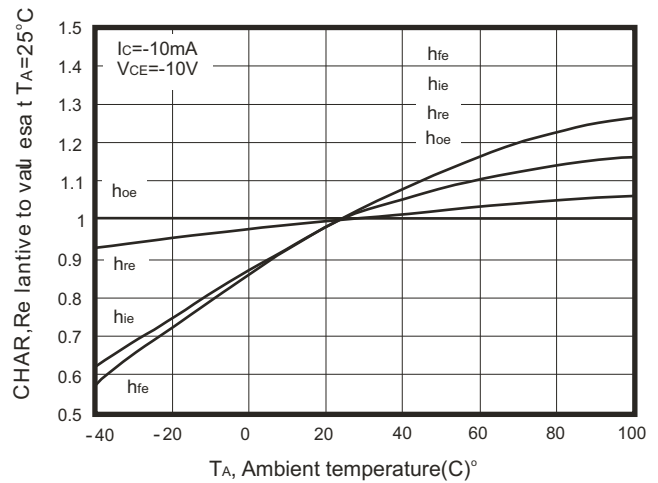


Fig.11 Common emitter characteristics

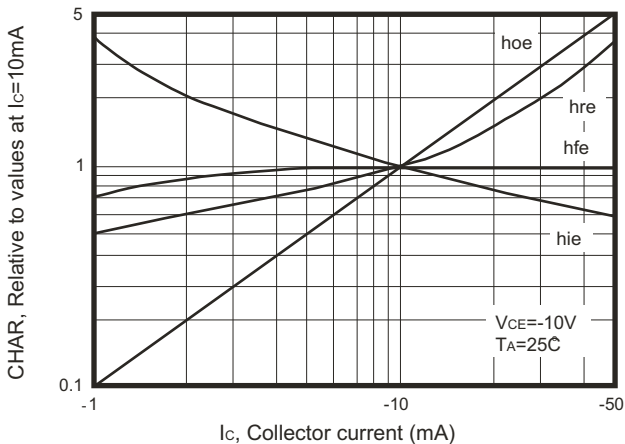


Fig.12 Common emitter characteristics

