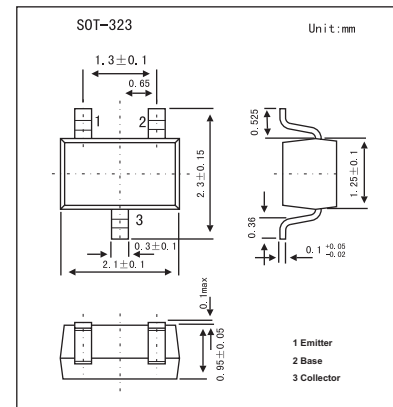
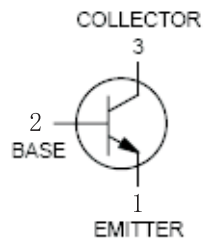


General Purpose Transistor

MMBT2907AW

■ Features

- General purpose transistor.
- Pb-Free package is available.

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

| Parameter | Symbol | Rating | Unit |
|---|-----------------|-------------|---------------------------|
| Collector-emitter voltage | V_{CEO} | -60 | V |
| Collector-base voltage | V_{CBO} | -60 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -600 | mA |
| Total Device Dissipation FR-5 Board | P_D | 150 | mW |
| Thermal Resistance, Junction-to-Ambient | $R_{\theta JA}$ | 833 | $^\circ\text{C}/\text{W}$ |
| Junction temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

* FR-5 = 1.0X 0.75 X0.062 in.

MMBT2907AW

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

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|--|---------------|---|-----|-----|------|------|
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -10\text{ mA}, I_B = 0$ | -60 | | | V |
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -10\text{ mA}, I_E = 0$ | -60 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -10\text{ }\mu\text{A}, I_C = 0$ | -5 | | | V |
| Base cutoff current | I_{BL} | $V_{CE} = -30\text{ V}, V_{EB(off)} = -0.5\text{ V}$ | | | -50 | nA |
| Collector cutoff current | I_{CEX} | $V_{CE} = -30\text{ V}, V_{EB(off)} = -0.5\text{ V}$ | | | -50 | nA |
| DC current gain * | HFE | $I_C = -0.1\text{ mA}, V_{CE} = -10\text{ V}$ | 75 | | | |
| | | $I_C = -1.0\text{ mA}, V_{CE} = -10\text{ V}$ | 100 | | | |
| | | $I_C = -10\text{ mA}, V_{CE} = -10\text{ V}$ | 100 | | | |
| | | $I_C = -150\text{ mA}, V_{CE} = -10\text{ V}$ | 100 | | | |
| | | $I_C = -500\text{ mA}, V_{CE} = -10\text{ V}$ | 50 | | | |
| Collector-emitter saturation voltage * | $V_{CE(sat)}$ | $I_C = -150\text{ mA}, I_B = -15\text{ mA}$ | | | -0.4 | V |
| | | $I_C = -500\text{ mA}, I_B = -50\text{ mA}$ | | | -1.6 | |
| Base-emitter saturation voltage * | $V_{BE(sat)}$ | $I_C = -150\text{ mA}, I_B = -15\text{ mA}$ | | | -1.3 | |
| | | $I_C = -500\text{ mA}, I_B = -50\text{ mA}$ | | | -2.6 | |
| Current-gain-bandwidth product | f_r | $I_C = -50\text{ mA}, V_{CE} = 20\text{ V}, f = 100\text{ MHz}$ | 200 | | | MHz |
| Output capacitance | C_{obo} | $V_{CB} = -10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$ | | | 8.0 | pF |
| Input capacitance | C_{ibo} | $V_{EB} = -2.0\text{ V}, I_C = 0, f = 1.0\text{ MHz}$ | | | 30 | pF |
| Turn?on time | t_{on} | $V_{CC} = -30\text{ V},$ $I_C = -150\text{ mA}, I_{B1} = -15\text{ mA}$ | | | 45 | ns |
| Delay time | t_d | | | | 10 | ns |
| Rise time | t_r | | | | 40 | ns |
| Storage time | t_s | | | | 80 | ns |
| Fall time | t_f | | | | 30 | ns |
| Turn?off time | t_{off} | $V_{CC} = -6.0\text{ V}, I_C = -150\text{ mA},$ $I_{B1} = I_{B2} = 15\text{ mA}$ | | | 100 | ns |

* Pulse test: pulse width $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2.0\%$.

■ Marking

| | |
|---------|----|
| Marking | 20 |
|---------|----|