



Micro Commercial Components



Micro Commercial Components  
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## MMBT2907AT

### PNP General Purpose Amplifier

### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Capable of 150mWatts of Power Dissipation
- Operating and Storage Junction Temperatures -55°C to 150°C
- Collector Current: -0.6A
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking:2F
- Halogen free available upon request by adding suffix "-HF"

### Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol                     | Parameter                                                                    | Min  | Max | Units |
|----------------------------|------------------------------------------------------------------------------|------|-----|-------|
| <b>OFF CHARACTERISTICS</b> |                                                                              |      |     |       |
| $V_{(BR)CEO}$              | Collector-Emitter Breakdown Voltage*<br>( $I_C = -10\text{mA}$ , $I_B = 0$ ) | -60  |     | Vdc   |
| $V_{(BR)CBO}$              | Collector-Base Breakdown Voltage<br>( $I_C = -10\mu\text{A}$ , $I_E = 0$ )   | -60  |     | Vdc   |
| $V_{(BR)EBO}$              | Emitter-Base Breakdown Voltage<br>( $I_E = -10\mu\text{A}$ , $I_C = 0$ )     | -5.0 |     | Vdc   |
| $I_{CBO}$                  | Collector Cut-off Current<br>( $V_{CB} = -50\text{Vdc}$ , $I_E = 0$ )        |      | -10 | nAdc  |
| $I_{EBO}$                  | Emitter Cut-off Current<br>( $V_{EB} = -4\text{Vdc}$ , $I_C = 0$ )           |      | -10 | nAdc  |

### ON CHARACTERISTICS

|               |                                                                                                                                                                                                                                                                                                         |                               |              |     |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------|-----|
| $h_{FE}$      | DC Current Gain*<br>( $I_C = -0.1\text{mA}$ , $V_{CE} = -10\text{Vdc}$ )<br>( $I_C = -1.0\text{mA}$ , $V_{CE} = -10\text{Vdc}$ )<br>( $I_C = -10\text{mA}$ , $V_{CE} = -10\text{Vdc}$ )<br>( $I_C = -150\text{mA}$ , $V_{CE} = -10\text{Vdc}$ )<br>( $I_C = -500\text{mA}$ , $V_{CE} = -10\text{Vdc}$ ) | 75<br>100<br>100<br>100<br>50 | 300          |     |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage<br>( $I_C = -150\text{mA}$ , $I_B = -15\text{mA}$ )<br>( $I_C = -500\text{mA}$ , $I_B = -50\text{mA}$ )                                                                                                                                                            |                               | -0.4<br>-1.6 | Vdc |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage<br>( $I_C = -150\text{mA}$ , $I_B = -15\text{mA}$ )<br>( $I_C = -500\text{mA}$ , $I_B = -50\text{mA}$ )                                                                                                                                                                 |                               | -1.3<br>-2.6 | Vdc |

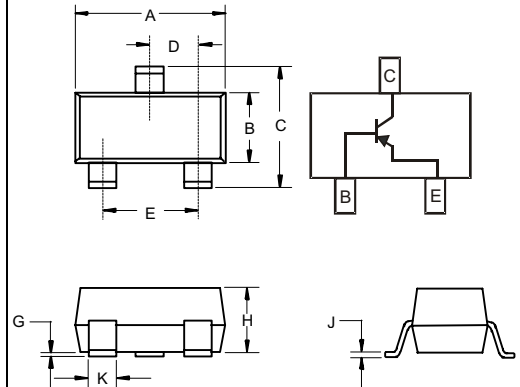
### SMALL-SIGNAL CHARACTERISTICS

|           |                                                                                                           |           |     |     |
|-----------|-----------------------------------------------------------------------------------------------------------|-----------|-----|-----|
| $f_T$     | Current Gain-Bandwidth Product<br>( $I_C = -2\text{mA}$ , $V_{CE} = -12\text{Vdc}$ , $f = 30\text{MHz}$ ) | 140(Typ.) |     | MHz |
| $C_{cbo}$ | Output Capacitance<br>( $V_{CB} = -12\text{Vdc}$ , $I_E = 0$ , $f = 100\text{kHz}$ )                      |           | 5.0 | pF  |

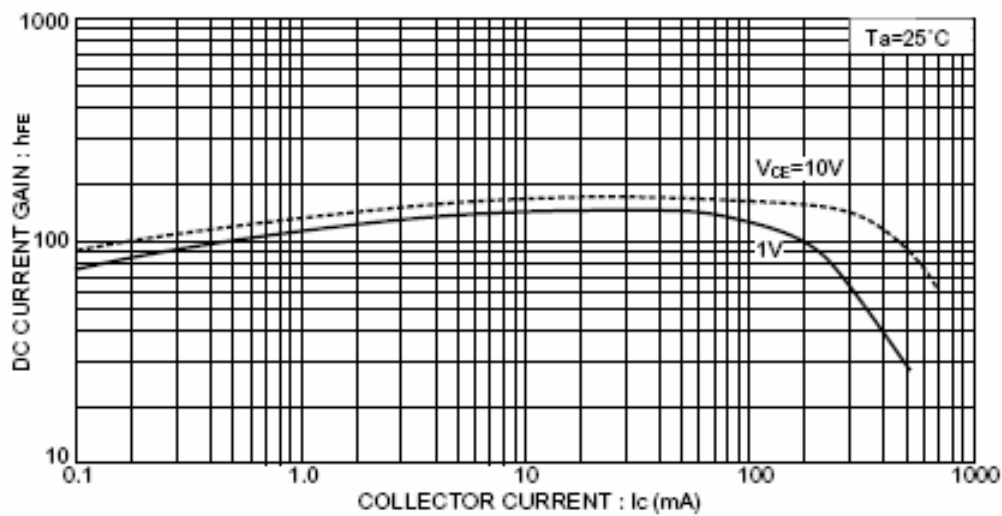
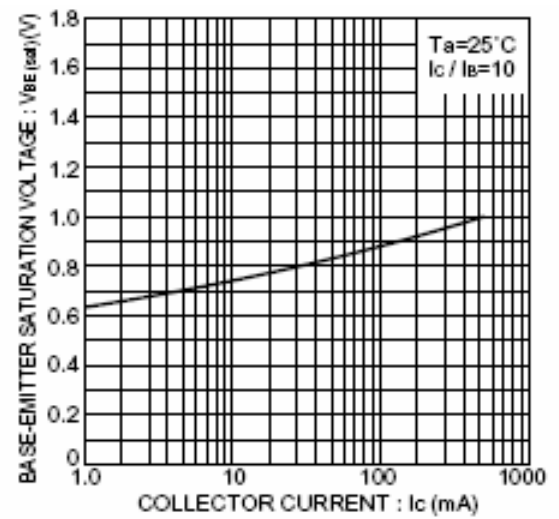
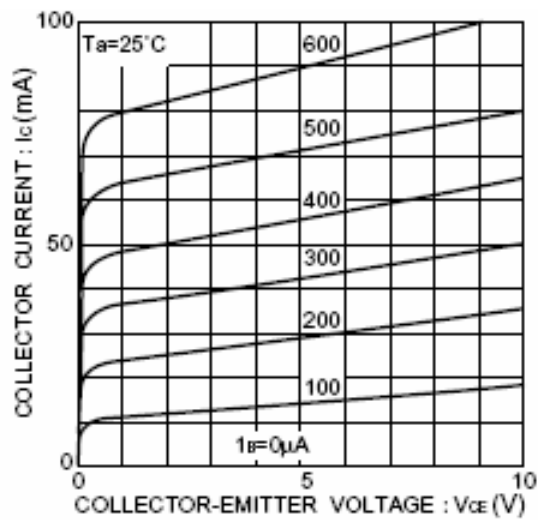
### SWITCHING CHARACTERISTICS

|           |               |                                                                                |     |    |
|-----------|---------------|--------------------------------------------------------------------------------|-----|----|
| $T_{on}$  | Turn-on Time  | $(V_{CC} = -30\text{Vdc}, I_C = -150\text{mA}, I_{B1} = -15\text{mA})$         | 45  | ns |
| $t_d$     | Delay Time    |                                                                                | 10  | ns |
| $t_r$     | Rise Time     |                                                                                | 40  | ns |
| $t_{off}$ | Turn-off Time | $(V_{CC} = -6\text{Vdc}, I_C = -150\text{mA}, I_{B1} = I_{B2} = -15\text{mA})$ | 100 | ns |
| $t_s$     | Storage Time  |                                                                                | 80  | ns |
| $t_f$     | Fall Time     |                                                                                | 30  | ns |

### SOT-523



| DIMENSIONS |              |      |              |      |      |
|------------|--------------|------|--------------|------|------|
| DIM        | INCHES       |      | MM           |      | NOTE |
|            | MIN          | MAX  | MIN          | MAX  |      |
| A          | .059         | .067 | 1.50         | 1.70 |      |
| B          | .030         | .033 | 0.75         | 0.85 |      |
| C          | .057         | .069 | 1.45         | 1.75 |      |
| D          | .020 Nominal |      | 0.50 Nominal |      |      |
| E          | .035         | .043 | 0.90         | 1.10 |      |
| G          | .000         | .004 | .000         | .100 |      |
| H          | .028         | .031 | .70          | 0.80 |      |
| J          | .004         | .008 | .100         | .200 |      |
| K          | .010         | .014 | .25          | .35  |      |



## Ordering Information :

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel; 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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