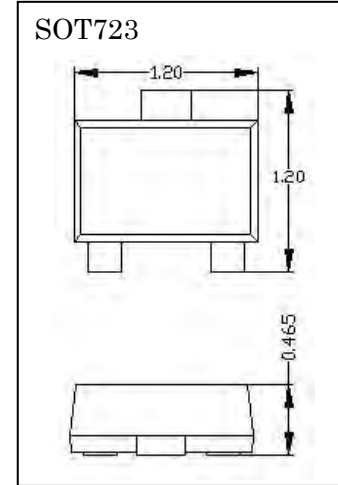
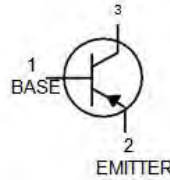


PNP General Purpose Amplifier

- ◇ Epitaxial planar die construction
- ◇ Operating and Storage Junction Temperatures: -55°C to 150°C
- ◇ Small Outline Surface Mount Package
- ◇ RoHS compliant / Green EMC

| | |
|---------------------|----|
| Device Marking Code | |
| MMBT2907AM | AC |

Circuit Diagram



Maximum Ratings (Ta = 25°C)

| Symbol | Parameter | Value | Unit |
|------------------|---|----------|------|
| V _{CBO} | Collector-Base Voltage | -60 | V |
| V _{CEO} | Collector-Emitter Voltage | -60 | V |
| V _{EBO} | Emitter-Base Voltage | -5.0 | V |
| I _C | Collector Current-Continuous | -600 | mA |
| P _D | Total Device Dissipation | 265 | mW |
| R _{θJA} | Thermal Resistance From Junction To Ambient | 470 | °C/W |
| T _j | Alumina Substrate, TA=25°C | 150 | °C |
| T _{stg} | Storage Temperature | -55~+150 | °C |

Off Electrical Characteristics Ta=25°C

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|----------------------|---|---|------|-------|-------|
| V _{(BR)CEO} | Collector-Emitter Breakdown Voltage(Note 1) | I _C =-10.0mA, I _B =0 | -60 | - | V |
| V _{(BR)CBO} | Collector-Base Breakdown Voltage | I _C =-10μA, I _E =0 | -60 | - | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E =-10μA, I _C =0 | -5.0 | - | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} =-50V, I _E =0 | | -0.01 | uA |
| I _{CEX} | Collector Cutoff Current | V _{CE} =-30V, V _{EB(off)} =-0.5V | | 50 | nA |
| I _{EBO} | Collector Cutoff Current | V _{EB} =-5V, I _C =0 | | -0.1 | uA |
| I _{BL} | Base Cutoff Current | V _{CE} =-30V, V _{EB(off)} =-0.5V | | -50 | nA |



PNP General Purpose Amplifier

On Electrical Characteristics Ta=25°C

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|----------------------|---|--|-----|------|-------|
| h _{FE} | DC Current Gain | I _C =-0.1mA, V _{CE} =-10V | 75 | - | - |
| | | I _C =-1.0mA, V _{CE} =-10V | 100 | - | |
| | | I _C =-10mA, V _{CE} =-10V | 100 | - | |
| | | I _C =-150mA, V _{CE} =-10V | 100 | 300 | |
| | | I _C =-500mA, V _{CE} =-10V(Note 1) | 50 | - | |
| V _{CE(Sat)} | Collector-Emitter Saturation Voltage (Note 1) | (I _C =-150mA, I _B =-15mA) (Note 1) | - | -0.4 | V |
| | | (I _C =-500mA, I _B =-50mA) | - | -1.6 | |
| V _{BE(Sat)} | Base-Emitter Saturation Voltage (Note 1) | I _C =-150mA, I _B =-15mA | - | -1.3 | V |
| | | I _C =-500mA, I _B =-50mA | - | -2.6 | |

Small-Signal Characteristics

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|------------------|----------------------------------|---|-----|-----|-------|
| f _T | Current-Gain – Bandwidth Product | I _C =-50mA, V _{CE} =-20V, f=100MHz(Notes 1,2) | 200 | - | MHz |
| C _{obo} | Output Capacitance | V _{CB} =-10V, I _E =0, f=1.0MHz | - | 8.0 | pF |
| C _{ibo} | Input Capacitance | V _{EB} =-2.0V, I _C =0, f=1.0MHz | - | 30 | |

Note 1. Pulse Test: Pulse Width ≤ 300 us, Duty Cycle ≤ 2.0%.

Note 2. f_T is defined as the frequency at which |h_{fe}| extrapolates to unity.

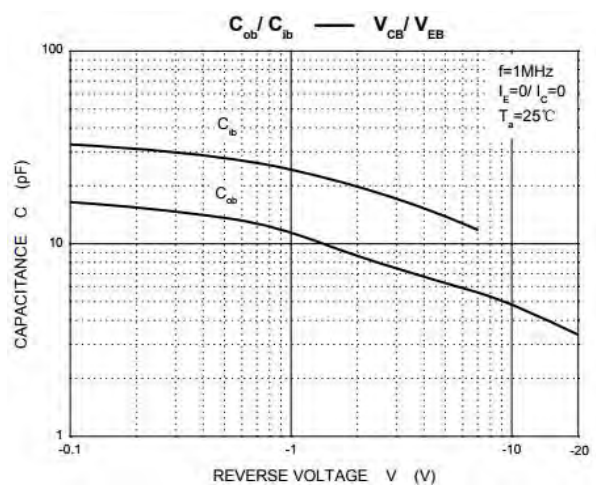
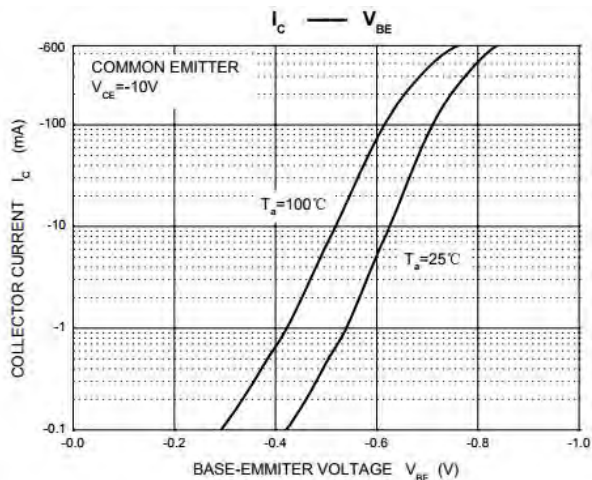
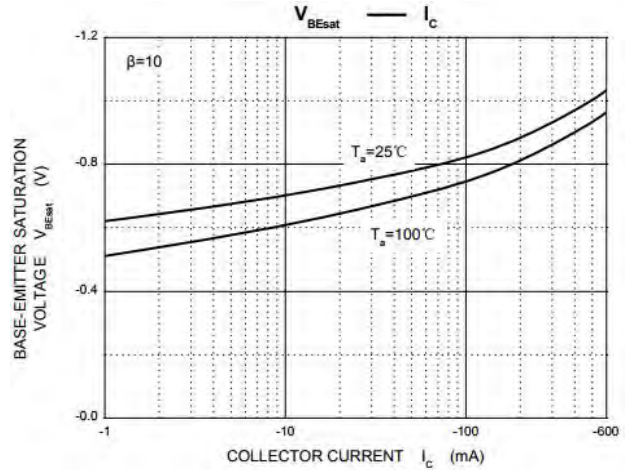
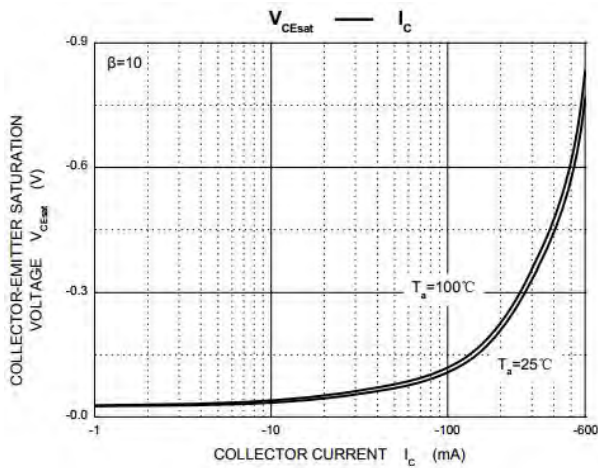
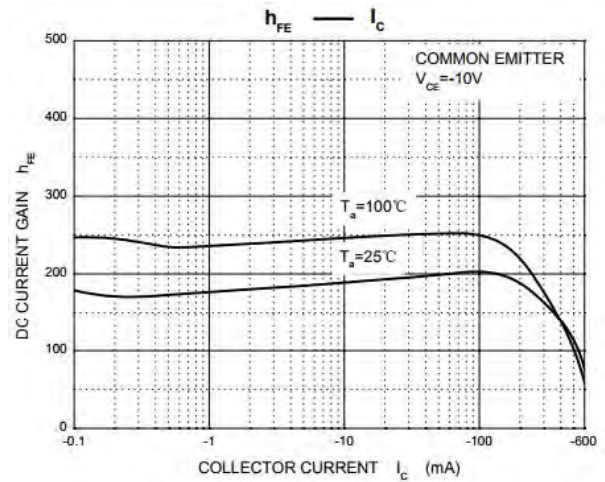
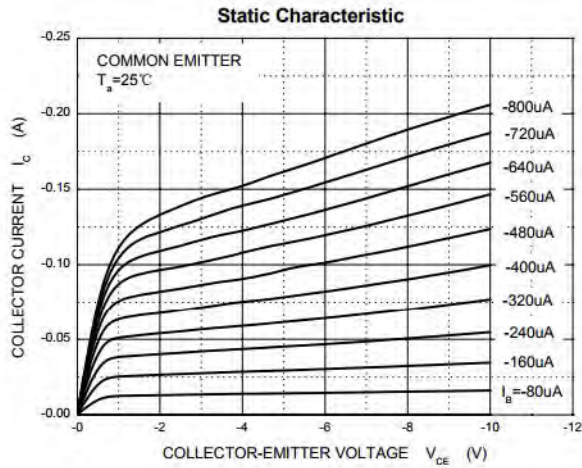
Switching Characteristics

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|------------------|---------------|---|-----|-----|-------|
| t _{on} | Turn-On Time | (V _{CC} =-30V, I _C =-150mA, I _{B1} =-15mA) | - | 45 | ns |
| t _d | Delay Time | | - | 10 | |
| t _r | Rise Time | | - | 40 | |
| t _{off} | Turn-Off Time | (V _{CC} =-6.0V, I _C =-150mA, I _{B1} =I _{B2} =-15mA) | - | 100 | |
| t _s | Storage Time | | - | 80 | |
| t _f | Fall Time | | - | 30 | |



PNP General Purpose Amplifier

Typical Characteristics



PNP General Purpose Amplifier

| Device | Package | Shipping | Tape wide | Emboss pitch | Tape specification | Notes |
|------------|---------|---------------------------------|-----------|--------------|--------------------|-------|
| MMBT2907AM | SOT723 | Tape & Reel 8000pcs /7" Reel | 8mm | 4mm | Conductive | |

PACKAGE DIMENSIONS

