

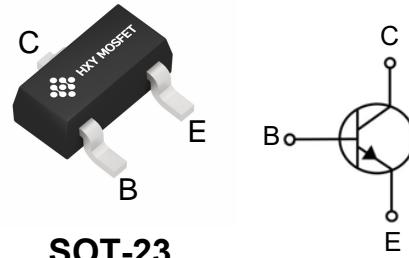


Features

- Collector Current: $I_C=0.2A$
- Power Dissipation of 200mW

Package Marking and Ordering Information

| Product ID | Pack | Marking | Qty(PCS) |
|------------|--------|---------|----------|
| PMBS3904 | SOT-23 | 1AM | 3000 |



Maximum Ratings (Ta=25°C unless otherwise noted)

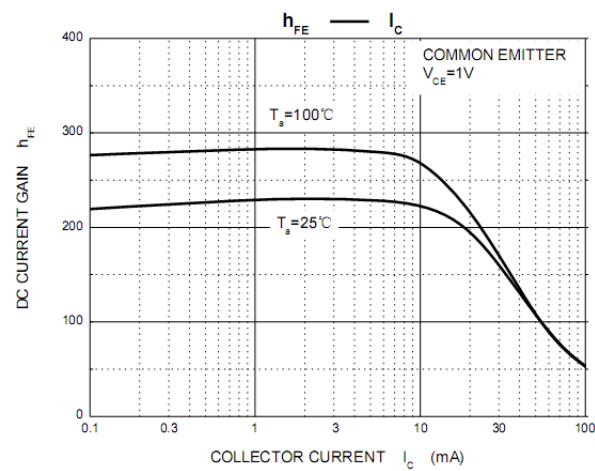
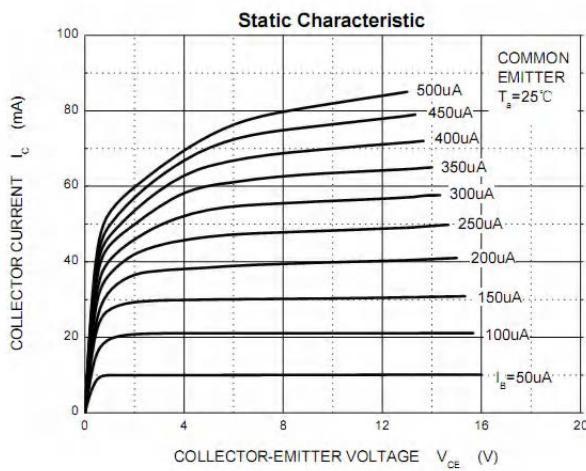
| Parameter | Symbol | Limit | Unit |
|---|-----------|----------|------|
| Collector-Base Voltage | V_{CBO} | 60 | V |
| Collector-Emitter Voltage | V_{CEO} | 40 | V |
| Emitter-Base Voltage | V_{EBO} | 6 | V |
| Collector Current | I_C | 200 | mA |
| Collector Power Dissipation | P_C | 200 | mW |
| Thermal Resistance From Junction To Ambient | R_{OJA} | 625 | °C/W |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature | T_{stg} | -55~+150 | °C |

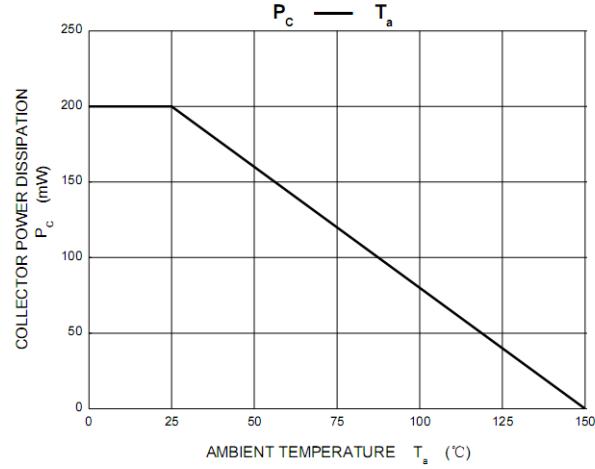
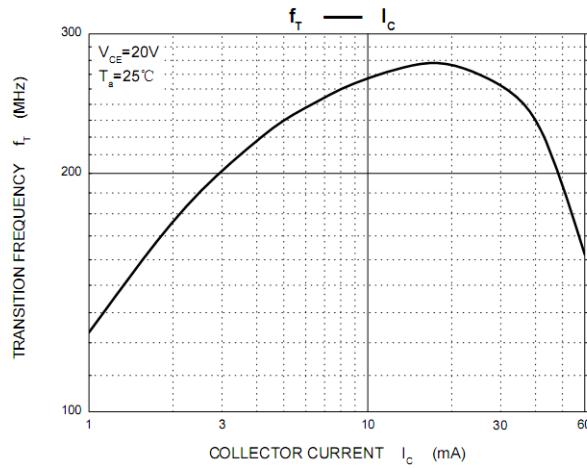
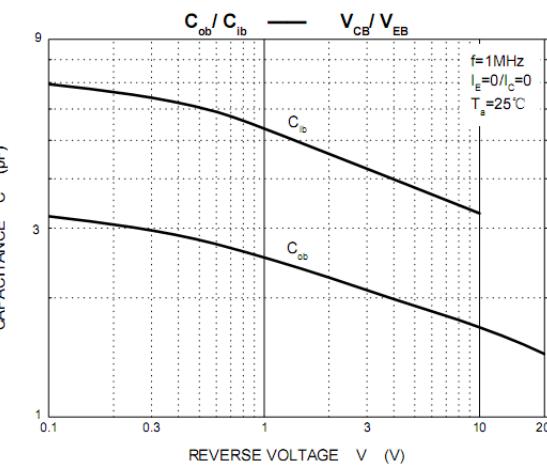
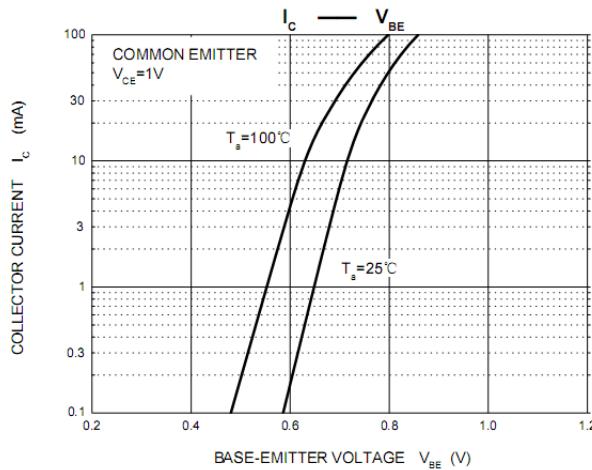
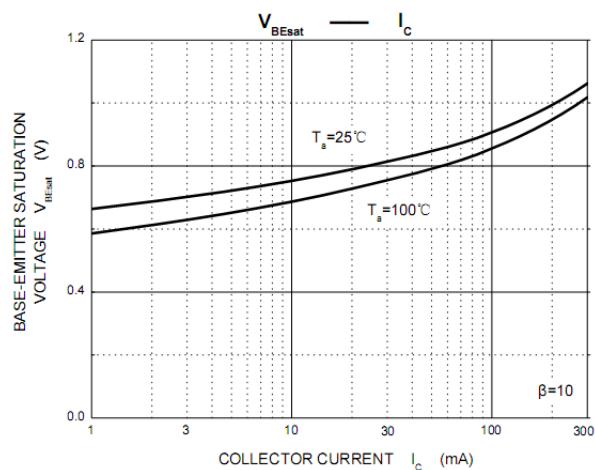
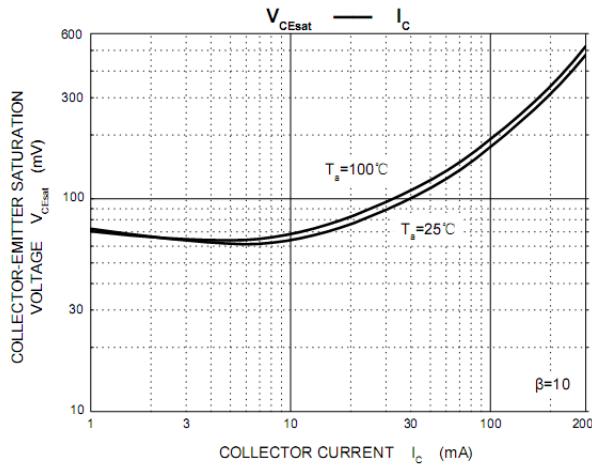


Electrical Characteristics (Ta=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Max | Unit |
|--------------------------------------|---------------|---|-----|------|------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=10\mu A, I_E=0$ | 60 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=1mA, I_B=0$ | 40 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=10\mu A, I_C=0$ | 6 | | V |
| Collector cut-off current | I_{CEX} | $V_{CE}=30V, V_{EB(off)}=3V$ | | 50 | nA |
| Collector cut-off current | I_{CBO} | $V_{CB}=60V, I_E=0$ | | 100 | nA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5V, I_C=0$ | | 100 | nA |
| DC current gain | $h_{FE(1)}$ | $V_{CE}=1V, I_C=10mA$ | 100 | 300 | |
| | $h_{FE(2)}$ | $V_{CE}=1V, I_C=50mA$ | 60 | | |
| | $h_{FE(3)}$ | $V_{CE}=1V, I_C=100mA$ | 30 | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=50mA, I_B=5mA$ | | 0.3 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=50mA, I_B=5mA$ | | 0.95 | V |
| Transition frequency | f_T | $V_{CE}=20V, I_C=10mA, f=100MHz$ | 300 | | MHz |
| Delay time | t_d | $V_{CC}=3V, V_{BE(off)}=-0.5V I_C=10mA, I_{B1}=1mA$ | | 35 | ns |
| Rise time | t_r | $V_{CC}=3V, V_{BE(off)}=-0.5V I_C=10mA, I_{B1}=1mA$ | | 35 | ns |
| Storage time | t_s | $V_{CC}=3V, I_C=10mA, I_{B1}=I_{B2}=1mA$ | | 200 | ns |
| Fall time | t_f | $V_{CC}=3V, I_C=10mA, I_{B1}=I_{B2}=1mA$ | | 50 | ns |

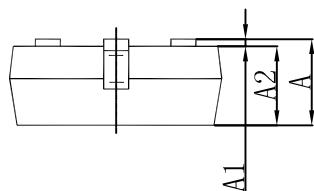
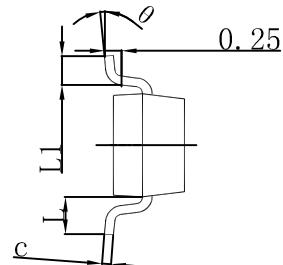
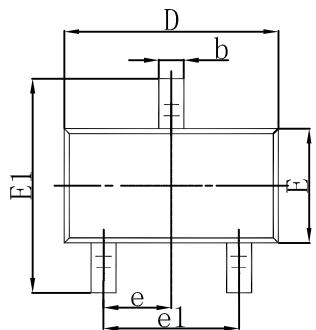
Typical Characteristics





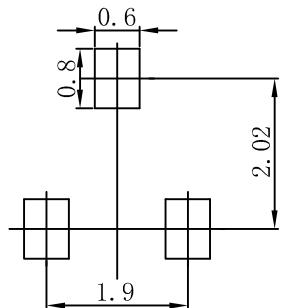


SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.



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