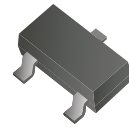
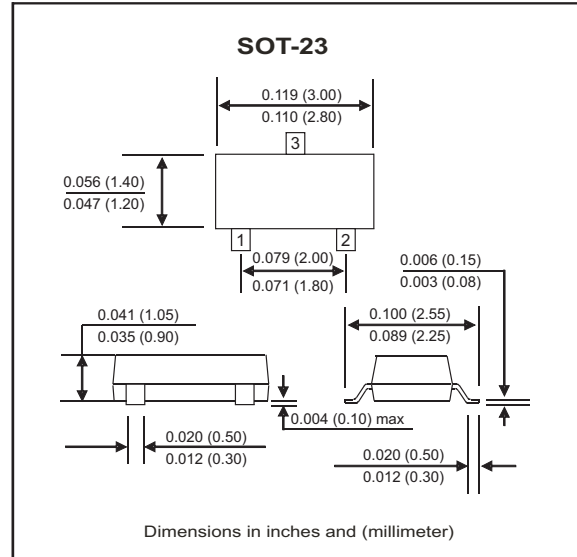
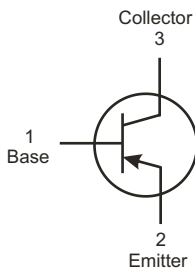


MMBT3906-G (PNP) RoHS Device



Features

- Epitaxial planar die construction
- As complementary type, the NPN transistor MMBT3904-G is recommended



Maximum Ratings (at TA=25°C unless otherwise noted)

| Parameter | Symbol | Min | Typ | Max | Unit |
|--|-----------------------------------|-----|-----|------|------|
| Collector-Base voltage | V _{CB0} | | | -40 | V |
| Collector-Emitter voltage | V _{CE0} | | | -40 | V |
| Emitter-Base voltage | V _{EB0} | | | -5 | V |
| Collector current-Continuous | I _C | | | -0.2 | A |
| Collector dissipation | P _C | | | 0.2 | W |
| Storage temperature and junction temperature | T _{STG} , T _J | -55 | | +150 | °C |

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

| Parameter | Conditions | Symbol | Min | Max | Unit |
|--------------------------------------|--|----------------------|-----|-------|------|
| Collector-Base breakdown voltage | I _C = -100μA , I _E = 0 | V _{(BR)CB0} | -40 | | V |
| Collector-Emitter breakdown voltage | I _C = -1mA , I _B = 0 | V _{(BR)CE0} | -40 | | V |
| Emitter-Base breakdown voltage | I _E = -100μA , I _C = 0 | V _{(BR)EB0} | -5 | | V |
| Collector cut-off current | V _{CB} = -40V , I _E = 0 | I _{CB0} | | -0.1 | μA |
| Collector cut-off current | V _{CE} = -40V , I _B = 0 | I _{CE0} | | -0.1 | μA |
| Emitter cut-off current | V _{EB} = -5V , I _C = 0 | I _{EB0} | | -0.1 | μA |
| DC current gain | V _{CE} = -1V , I _C = -10mA | h _{FE(1)} | 100 | 300 | |
| | V _{CE} = -1V , I _C = -50mA | h _{FE(2)} | 60 | | |
| | V _{CE} = -1V , I _C = -100mA | h _{FE(3)} | 30 | | |
| Collector-Emitter saturation voltage | I _C = -50mA , I _B = -5mA | V _{CE(sat)} | | -0.4 | V |
| Base-Emitter saturation voltage | I _C = -50mA , I _B = -5mA | V _{BE(sat)} | | -0.95 | V |
| Transition frequency | V _{CE} = -20V , I _C = -10mA f = 100MHz | f _T | 300 | | Mhz |
| Delay time | V _{CC} = -3.0V , V _{BE} = -0.5V | t _d | | 35 | nS |
| Rise time | I _C = -10mA , I _{B1} = -1.0mA | t _r | | 35 | nS |
| Storage time | V _{CC} = -3.0V _{dc} , I _C = -10mA | t _s | | 225 | nS |
| Fall time | I _{B1} = I _{B2} = -1.0mA | t _f | | 75 | nS |

RATING AND CHARACTERISTIC CURVES (MMBT3906-G)

Fig.1 - Static Characteristic

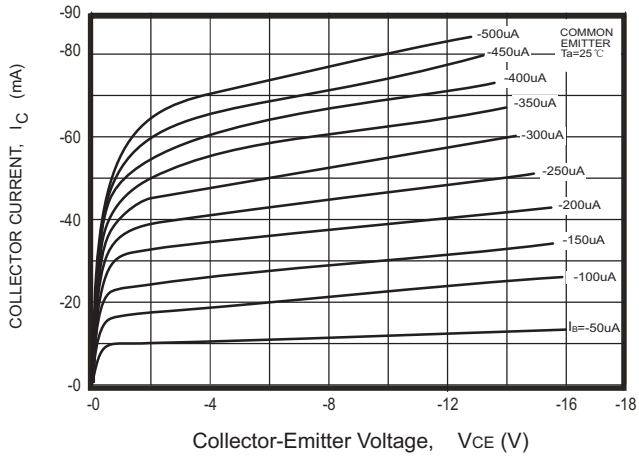


Fig.2 - $h_{FE} - I_c$

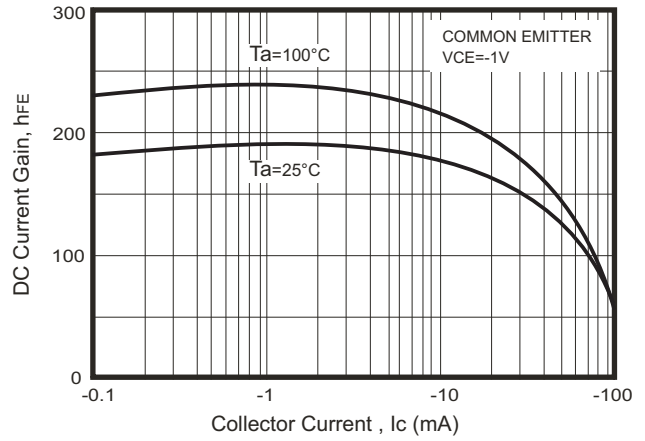


Fig.3 - $V_{CEsat} - I_c$

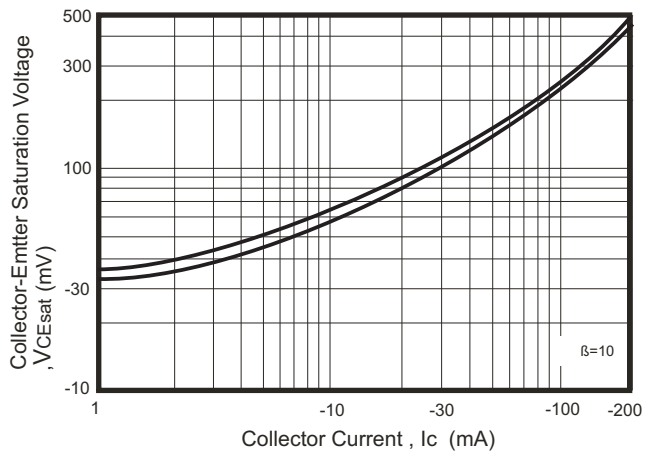


Fig.4 - $V_{BEsat} - I_c$

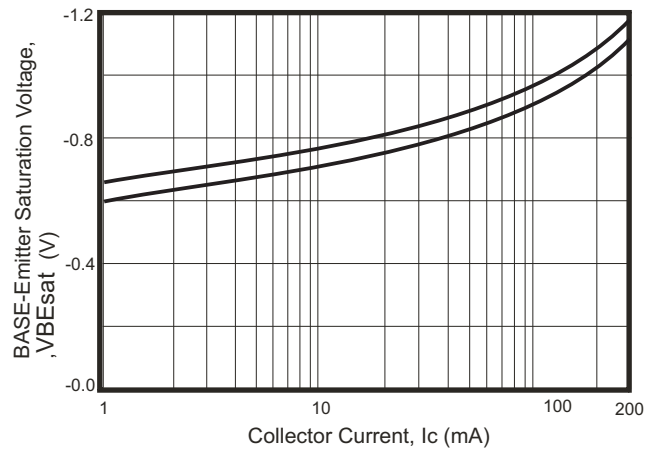


Fig.5 - $I_c - V_{BE}$

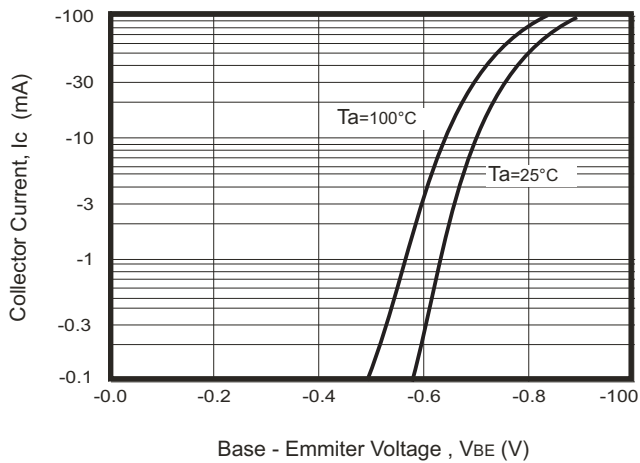
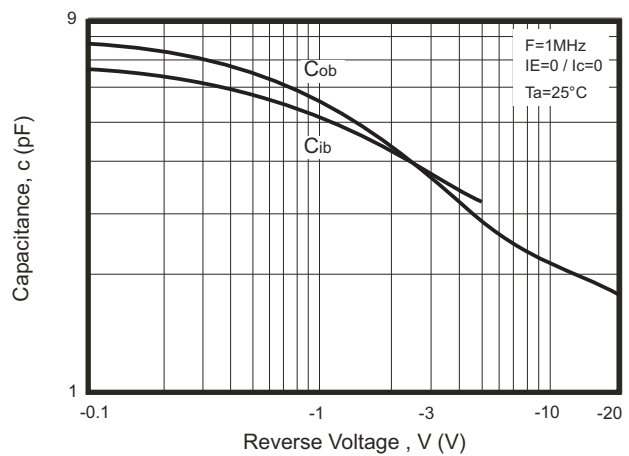


Fig.6 - $C_{ob}/C_{ib} - V_{CB}/V_{EB}$



RATING AND CHARACTERISTIC CURVES (MMBT3906-G)

Fig.7 - f_T — I_C

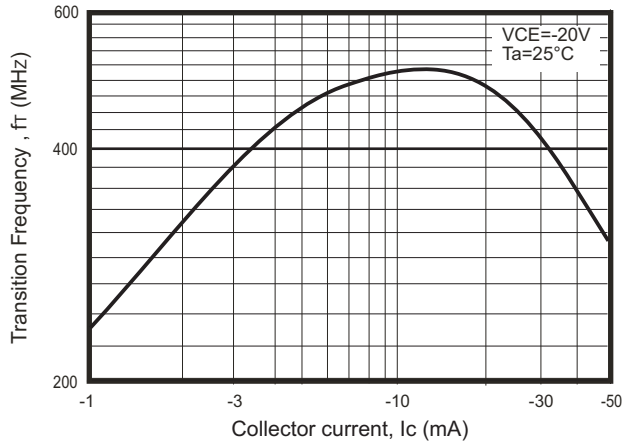
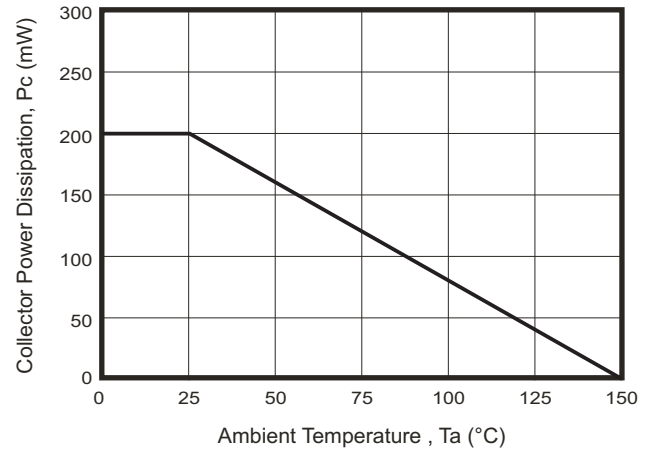
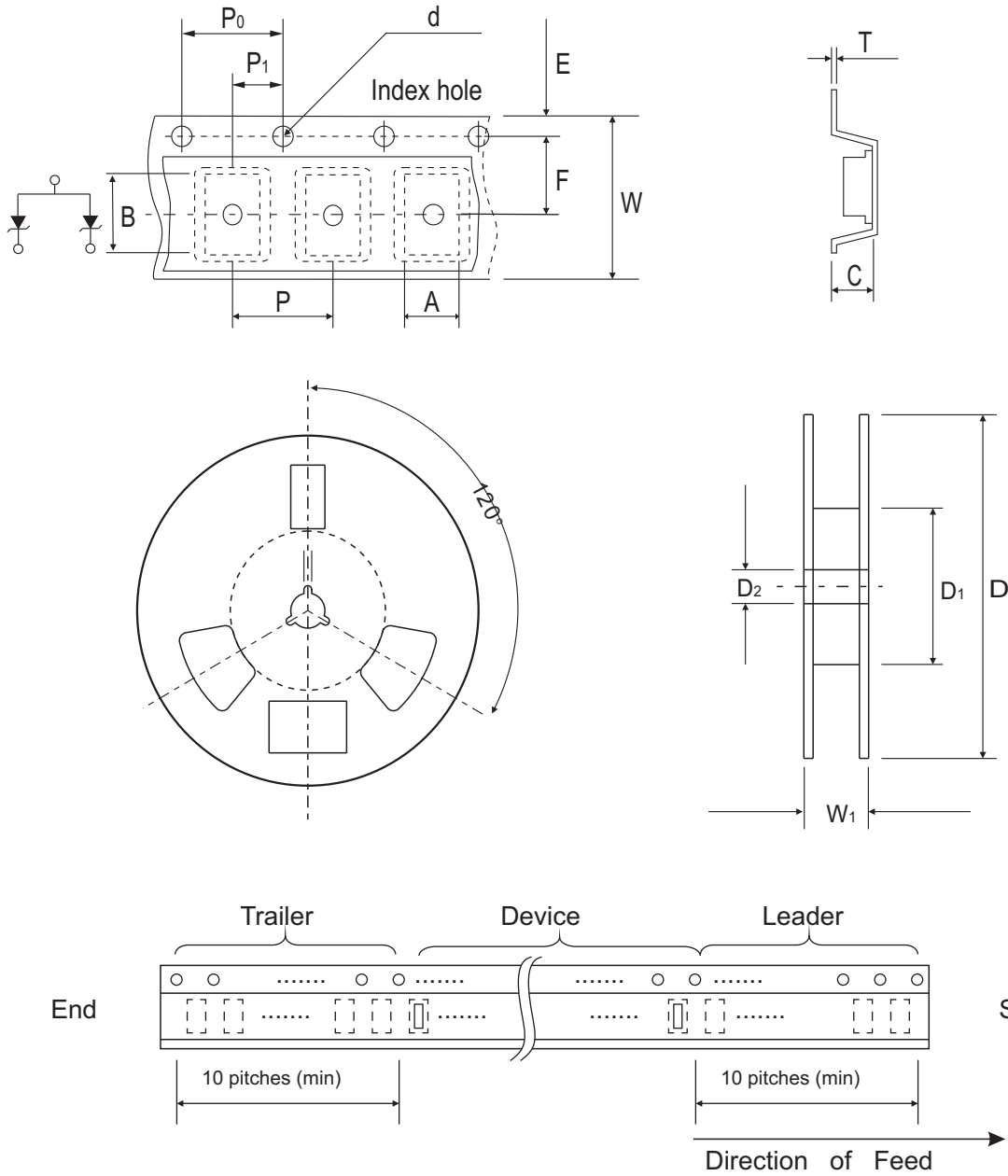


Fig.8 - P_C — T_a



Reel Taping Specification

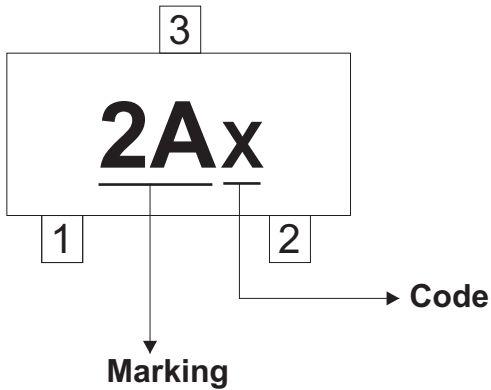


| SOT-23 | SYMBOL | A | B | C | d | D | D1 | D2 |
|--------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | (mm) | 3.15 ± 0.10 | 2.77 ± 0.10 | 1.22 ± 0.10 | 1.50 ± 0.10 | 178 ± 1.00 | 54.40 ± 0.40 | 13.00 ± 0.20 |
| | (inch) | 0.124 ± 0.004 | 0.109 ± 0.004 | 0.048 ± 0.004 | 0.059 ± 0.004 | 7.008 ± 0.039 | 2.142 ± 0.016 | 0.512 ± 0.008 |

| SOT-23 | SYMBOL | E | F | P | P0 | P1 | W | W1 |
|--------|--------|---------------|---------------|---------------|---------------|---------------|-------------------------|---------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 8.00 + 0.30 / - 0.10 | 9.50 ± 1.00 |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.315 + 0.012 / - 0.004 | 0.374 ± 0.039 |

Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| MMBT3906-G | 2A |

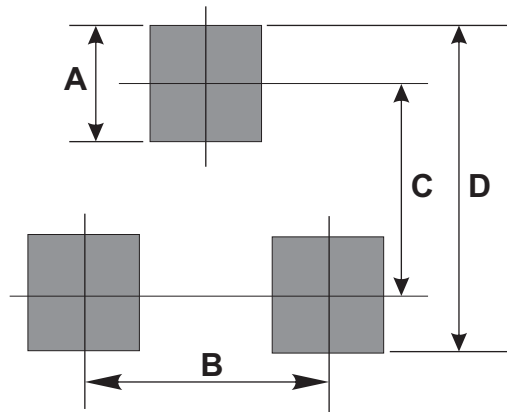


Code: Per A. D.

| Year(odd)-Month | Code | Year(Even)-Month | Code |
|-----------------|------|------------------|------|
| XXX1-01 | J | XXX2-01 | W |
| XXX1-02 | O | XXX2-02 | N |
| XXX1-03 | L | XXX2-03 | Y |
| XXX1-04 | C | XXX2-04 | T |
| XXX1-05 | K | XXX2-05 | R |
| XXX1-06 | B | XXX2-06 | H |
| XXX1-07 | P | XXX2-07 | A |
| XXX1-08 | D | XXX2-08 | I |
| XXX1-09 | M | XXX2-09 | U |
| XXX1-010 | E | XXX2-010 | X |
| XXX1-011 | G | XXX2-011 | Z |
| XXX1-012 | F | XXX2-012 | S |

Suggested PAD Layout

| SIZE | SOT-23 | |
|------|--------|--------|
| | (mm) | (inch) |
| A | 0.80 | 0.031 |
| B | 1.90 | 0.075 |
| C | 2.02 | 0.080 |
| D | 2.82 | 0.111 |



Standard Packaging

| Case Type | REEL PACK | |
|-----------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| SOT-23 | 3,000 | 7 |