



MMBTA43

NPN SILICON TRANSISTOR

DESCRIPTION

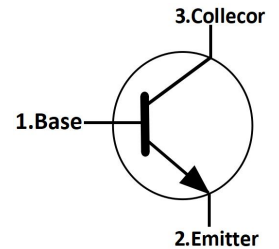
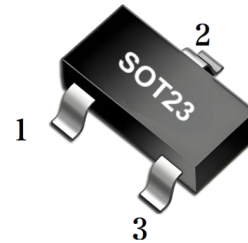
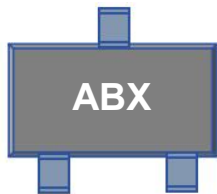
The MMBTA43 are high voltage transistors, designed for telephone switch and high voltage switch.

FEATURES

- * High breakdown voltage
- * Low collector-emitter saturation voltage

MARKING

Type Code: Marking: ABX



ABSOLUTE MAXIMUM RATINGS (Tc=25°C, unless otherwise specified)

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|---|---------|------|
| V _{CB0} | Collector-base voltage | 200 | V |
| V _{CEO} | Collector-emitter voltage | 200 | V |
| V _{EBO} | Emitter-base voltage | 5 | V |
| I _c | Collector Current -Continuous | 0.5 | A |
| P _c | Collector Power Dissipation | 350 | mW |
| T _j | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature | -55~150 | °C |
| θ _{JA} | Thermal Resistance From Junction To Ambient | 357 | °C/W |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

ELECTRICAL CHARACTERISTICS (Tc=25°C, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | MAX | UNIT |
|--------------------------------------|------------------------|--|-----|-----|------|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _C =100μA, I _E =0 | 200 | | V |
| Collector-emitter breakdown voltage | V _{(BR)CEO} | I _C =1mA, I _B =0 | 200 | | V |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E =100μA, I _C =0 | 5 | | V |
| DC Current Gain | h _{FE1} * | V _{CE} =10V, I _C =1mA | 40 | | |
| | h _{FE2} * | V _{CE} =10V, I _C =10mA | 40 | | |
| | h _{FE3} * | V _{CE} =10V, I _C =30mA | 40 | | |
| Collector-emitter saturation voltage | V _{CE(sat)} * | I _C =20mA, I _B =2mA | | 0.5 | V |
| Base-Emitter Saturation Voltage | V _{BE(sat)} * | I _C =20mA, I _B =2mA | | 0.9 | V |
| Transition frequency | f _T | V _{CE} =20V, I _C =10mA, f=100MHz | 50 | | MHz |
| Collector output capacitance | C _{ob} | V _{CB} =20V, I _E =0, f=1MHz | | 4 | pF |

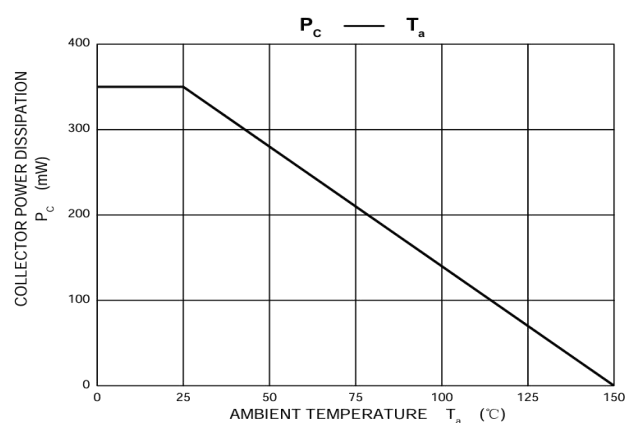
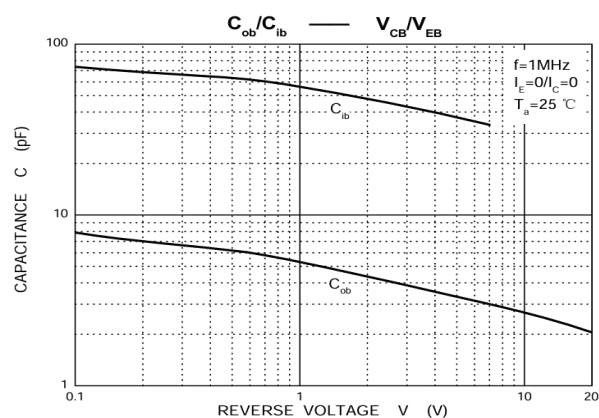
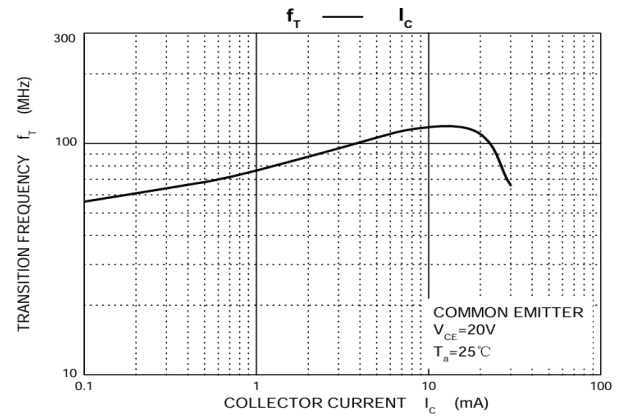
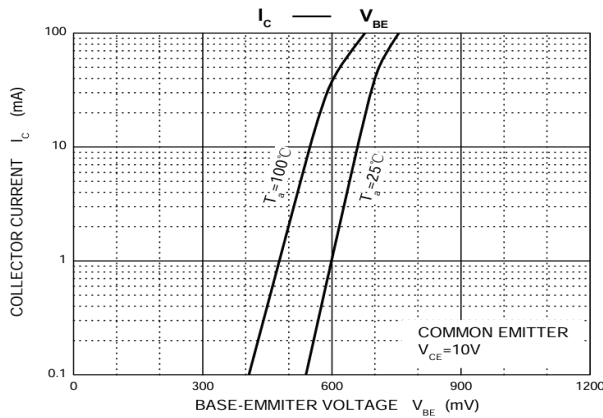
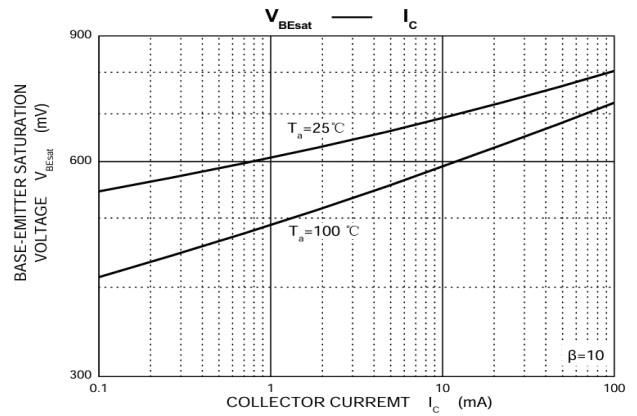
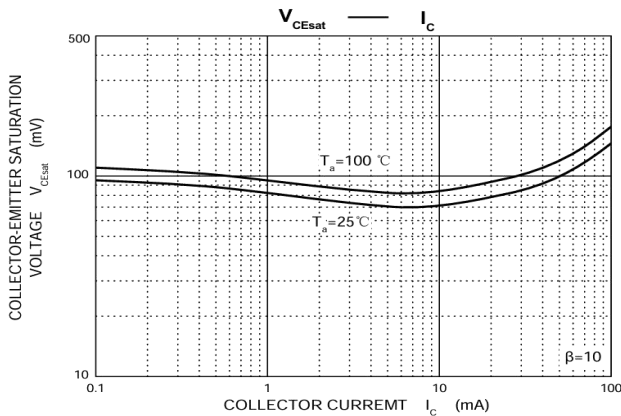
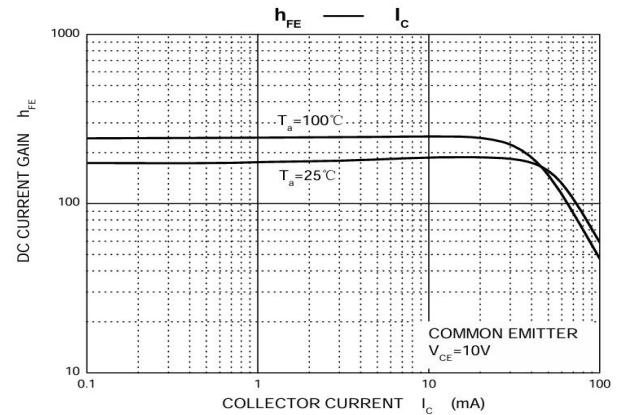
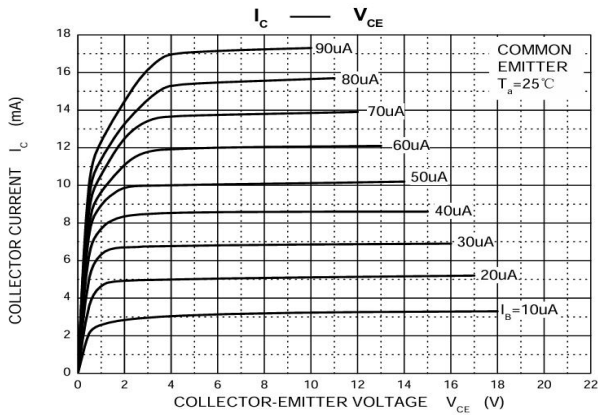
*Pulse test: pulse width ≤300μs, duty cycles ≤2.0%.



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TYPICAL CHARACTERISTICS





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NPN SILICON TRANSISTOR

SOT23 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° |

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

REEL PACKING

Top cover tape thickness
0.10 mm (0.004") max. thick

Embossed carrier tape

Trailer Tape
50±2 Empty Pockets

Components

Leader Tape
100±2 Empty Pockets

| Dimensions are in millimeter | | | | | | | | | | |
|------------------------------|--------|-------|-------|--------|--------|-------|------|-------|---------------|------|
| PKG TYPE | A | B | C | d | E | F | Po | P | P1 | W |
| SOT-23 | 3.15 | 2.77 | 1.22 | Φ1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |
| Reel Optim | D | D1 | D2 | G | H | I | W1 | W2 | Q.TY PER REEL | |
| 7" Dia | Φ178.0 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 | 3000PCS | |
| 13" Dia | φ330.0 | / | 13.00 | / | / | R6.50 | 9.50 | 12.30 | 10000PCS | |