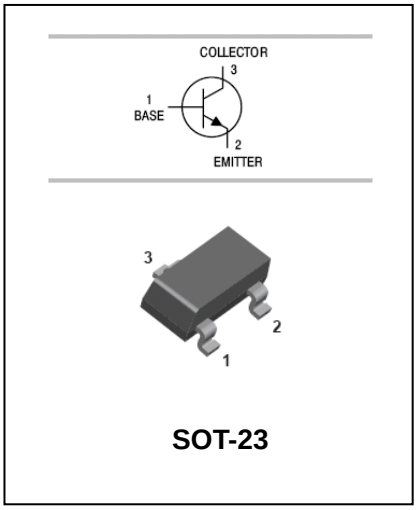
# NPN High Voltage Amplifier MMBTA43

## FEATURES

- Epitaxial planar die construction.
- Ideal for medium power amplification and switching.

Lead-free




**SOT-23**

## APPLICATIONS

- As a video output to driver color CRT and other high Voltage application.

## ORDERING INFORMATION

| Type No. | Marking | Package Code |
|---|---|---|
| MMBTA43 | ABX | SOT-23 |

## MAXIMUM RATING @ Ta=25℃ unless otherwise specified

| Symbol | Parameter | Value | UNIT |
|---|---|---|---|
| $V_{CBO}$ | collector-base voltage | 200 | V |
| $V_{CEO}$ | collector-emitter voltage | 200 | V |
| $V_{EBO}$ | emitter-base voltage | 6 | V |
| $I_C$ | collector current (DC) | 0.2 | A |
| $P_C$ | Collector dissipation | 0.35 | W |
| $T_j$ , $T_{stg}$ | junction and storage temperature | -55-150 | °C |

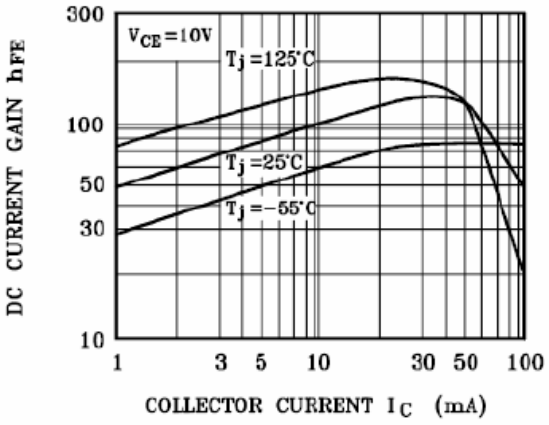
## ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

| Symbol | Parameter | Test conditions | MIN. | MAX. | UNIT |
|---|---|---|---|---|---|
| $V_{(BR)CBO}$ | Collector-base breakdown voltage | $I_C$=100μA,$I_E$=0 | 200 | - | V |
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage | $I_C$=1.0mA,$I_B$=0 | 200 | - | V |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage | $I_E$=100μA,$I_C$=0 | 6 | - | V |
| $I_{CBO}$ | collector cut-off current | $I_E$ = 0; $V_{CB}$ = 160V | - | 0.1 | μA |
| $I_{EBO}$ | emitter cut-off current | $I_C$ = 0; $V_{EB}$ = 4V | - | 0.1 | μA |
| $h_{FE}$ | DC current gain | $V_{CE}$ =10V; $I_C$=1mA<br>$V_{CE}$ =10V;$I_C$ =10mA<br>$V_{CE}$ =10V;$I_C$ =30mA | 25<br>40<br>50 | -<br>-<br>200 | |
| $V_{CE(sat)}$ | collector-emitter saturation voltage | $I_C$ =20mA; $I_B$ =2mA | - | 0.4 | V |
| $V_{BE(sat)}$ | base-emitter saturation voltage | $I_C$ =20mA; $I_B$=2mA | - | 0.9 | V |
| $C_{ob}$ | Collector output capacitance | $V_{CB}$=20V,$I_E$=0;f=1.0MHz | | 4.0 | pF |
| $f_T$ | transition frequency | $I_C$=10mA; $V_{CE}$ =20V<br>f=100MHz | 50 | - | MHz |

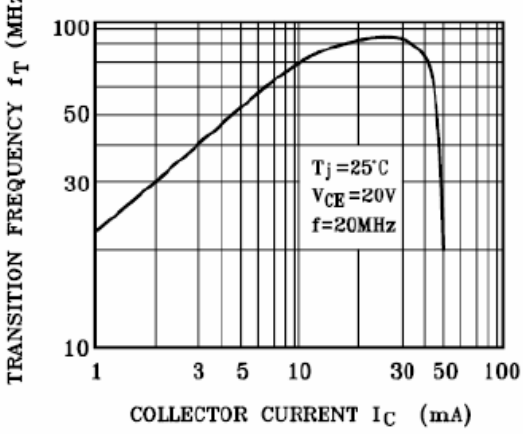
## NPN High Voltage Amplifier MMBTA43

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

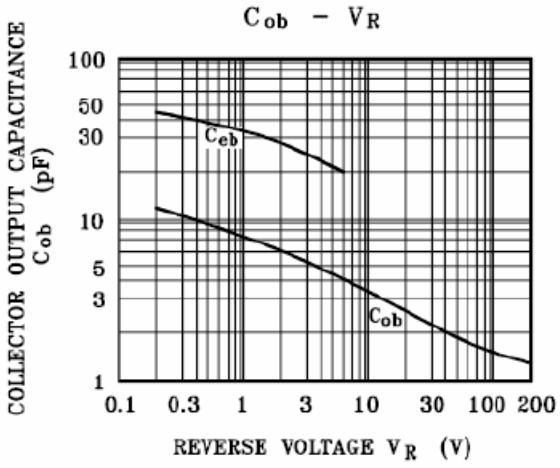
$h_{FE}$ - $I_C$



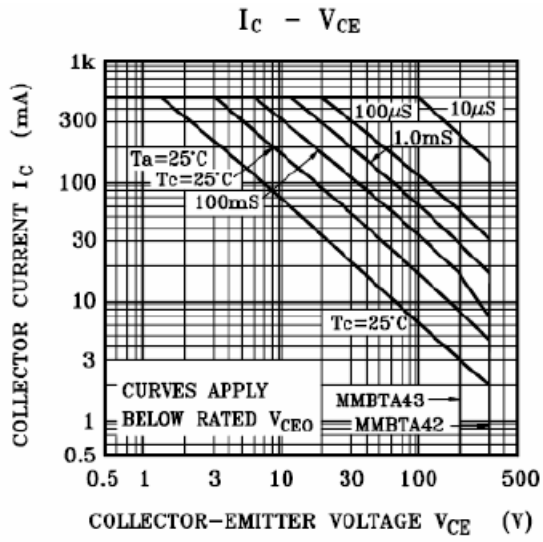

$f_T$ - $I_C$



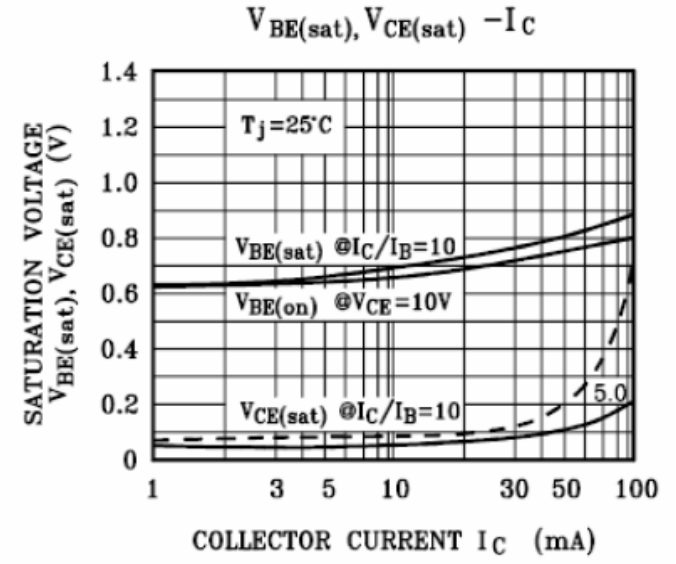

$C_{ob}$ - $V_R$




$I_C$ - $V_{CE}$



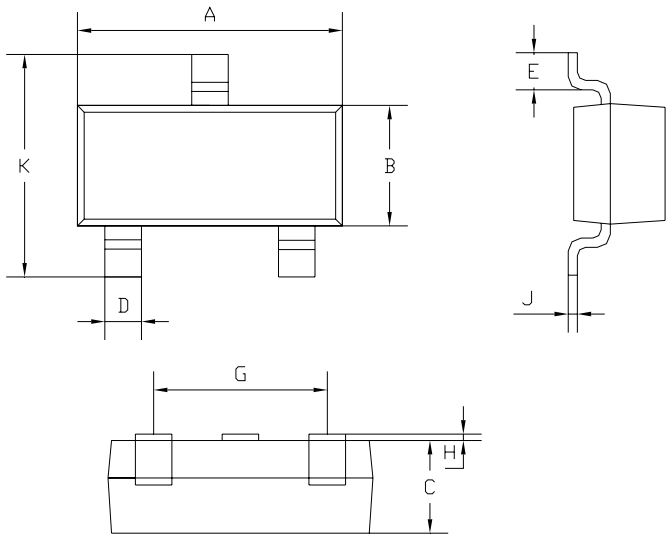

$V_{BE(sat)}$, $V_{CE(sat)}$ - $I_C$



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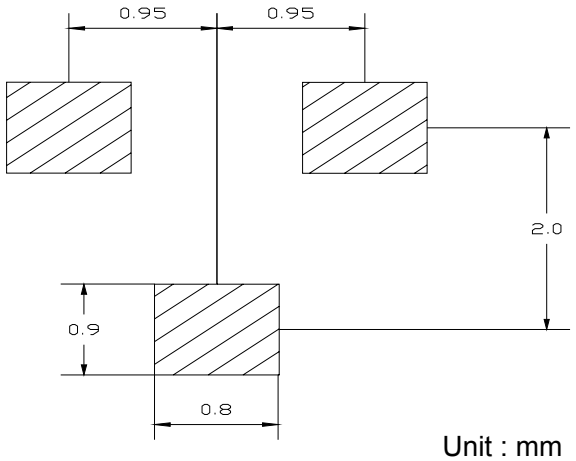
## PACKAGE OUTLINE

Plastic surface mounted package SOT-23




| SOT-23 | | |
|---|---|---|
| Dim | Min | Max |
| A | 2.85 | 2.95 |
| B | 1.25 | 1.35 |
| C | 1.0Typical | |
| D | 0.37 | 0.43 |
| E | 0.35 | 0.48 |
| G | 1.85 | 1.95 |
| H | 0.02 | 0.1 |
| J | 0.1Typical | |
| K | 2.35 | 2.45 |
| All Dimensions in mm | | |

## SOLDERING FOOTPRINT




Unit : mm

## PACKAGE INFORMATION

| Device | Package | Shipping |
|---|---|---|
| MMBTA43 | SOT-23 | 3000/Tape&Reel |