

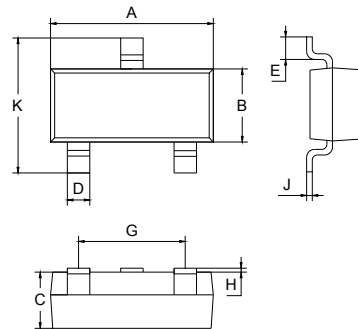
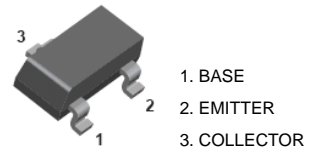
## FEATURES

- Epitaxial planar die construction.
- Complementary PNP type available (MMBTA92).
- Ideal for medium power amplification and switching.

## APPLICATIONS

- NPN High voltage amplifier.

## ORDERING INFORMATION



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

Type No.

Marking

Package Code

MMBTA42

1D

SOT-23

## MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

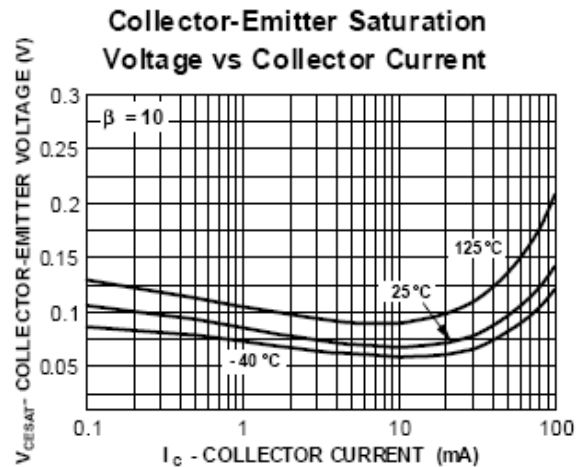
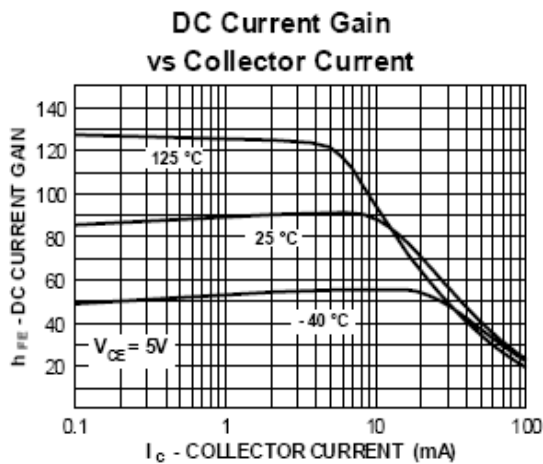
Symbol	Parameter	Value	UNIT
$V_{CBO}$	Collector-base voltage	300	V
$V_{CEO}$	Collector-emitter voltage	300	V
$V_{EBO}$	Emitter-base voltage	6	V
$I_C$	Collector current (DC)	0.2	A
$P_D$	Total device dissipation	0.35	W
$R_{\theta JA}$	Thermal resistance, junction to ambient	357	$^\circ\text{C}/\text{W}$
$T_j, T_{stg}$	Junction and storage temperature	-55 to +150	$^\circ\text{C}$

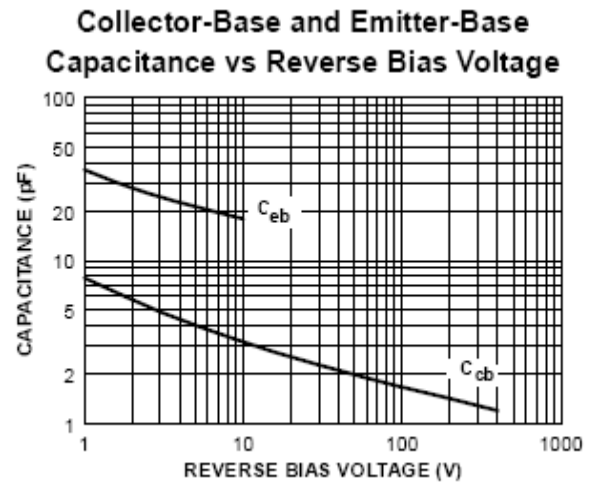
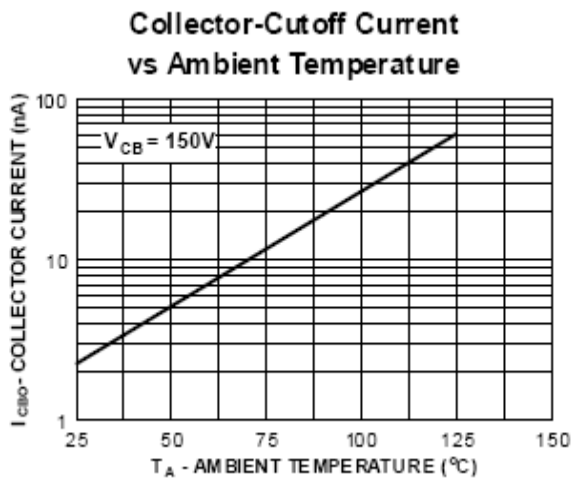
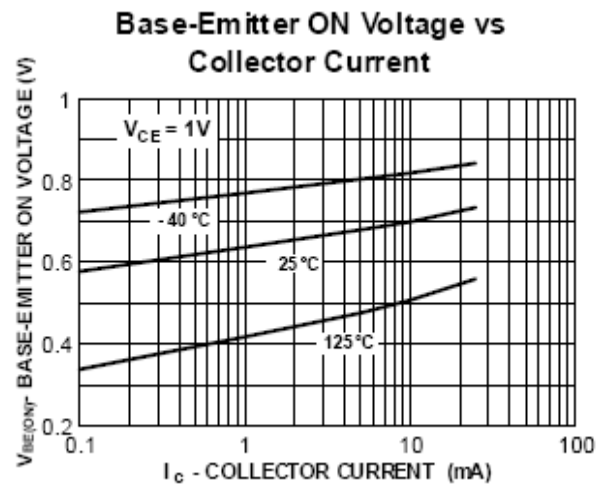
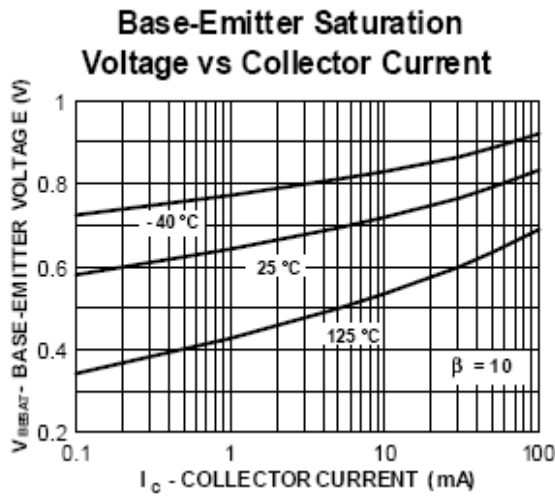


**ELECTRICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified**

Symbol	Parameter	Test conditions	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu\text{A}, I_E=0$	300	-	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1.0\text{mA}, I_B=0$	300	-	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu\text{A}, I_C=0$	6	-	V
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = 200\text{V}$	-	0.1	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = 6\text{V}$	-	0.1	$\mu\text{A}$
$h_{FE}$	DC current gain	$V_{CE} = 10\text{V}; I_C=1\text{mA}$ $V_{CE} = 10\text{V}; I_C = 10\text{mA}$ $V_{CE} = 10\text{V}; I_C = 30\text{mA}$	25 40 40	- - -	
$V_{CE(sat)}$	collector-emitter saturation voltage	$I_C = 20\text{mA}; I_B = 2\text{mA}$	-	0.5	V
$V_{BE(sat)}$	base-emitter saturation voltage	$I_C = 20\text{mA}; I_B = 2\text{mA}$	-	0.9	V
$C_{ob}$	Collector output capacitance	$V_{CB}=20\text{V}, I_E=0; f=1.0\text{MHz}$		3.0	pF
$f_T$	transition frequency	$I_C=10\text{mA}; V_{CE} = 20\text{V}$ $f=100\text{MHz}$	50	-	MHz

**TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified**





Device	Package	Shipping
MMBTA42	SOT-23	3000/Tape&Reel