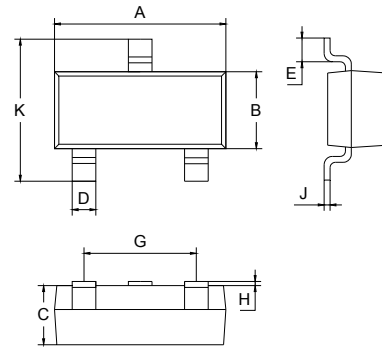


FEATURES

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

APPLICATIONS

- NPN High voltage amplifier.



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		

ORDERING INFORMATION

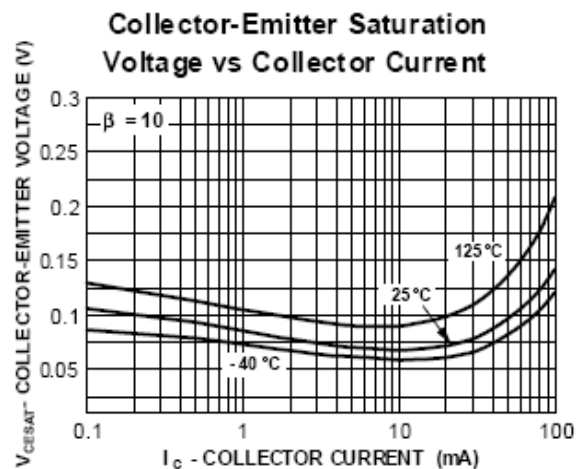
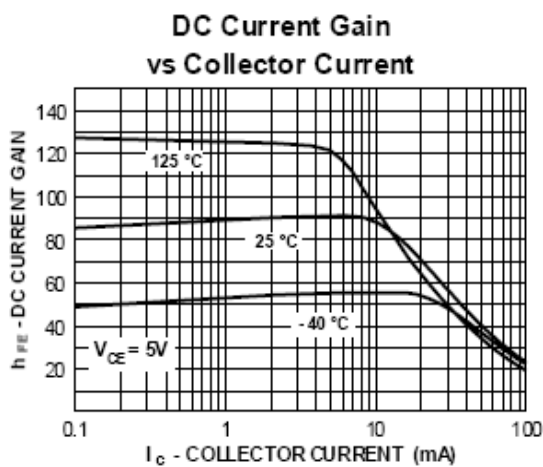
Type No.	Marking	Package Code
MMBTA42	1D	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

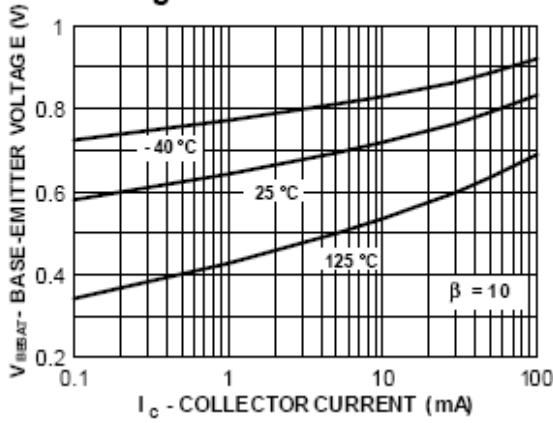
Symbol	Parameter	Value	UNIT
V_{CBO}	Collector-base voltage	300	V
V_{CEO}	Collector-emitter voltage	300	V
V_{EBO}	Emitter-base voltage	6	V
I_C	Collector current (DC)	0.2	A
P_D	Total device dissipation	0.35	W
$R_{\theta JA}$	Thermal resistance, junction to ambient	357	°C/W
T_J, T_{stg}	Junction and storage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

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

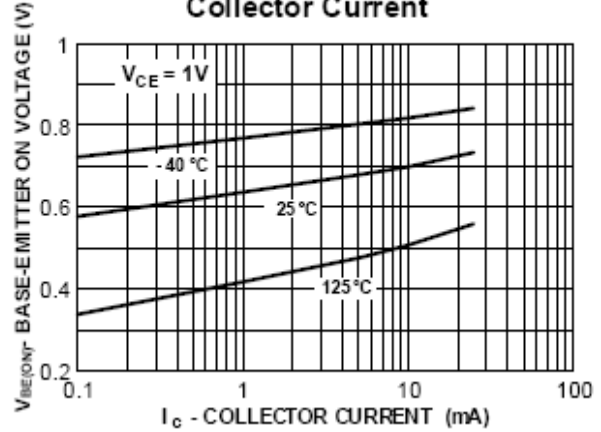
Symbol	Parameter	Test conditions	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	300	-	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1.0mA, I_B=0$	300	-	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	6	-	V
I_{CBO}	collector cut-off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

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified


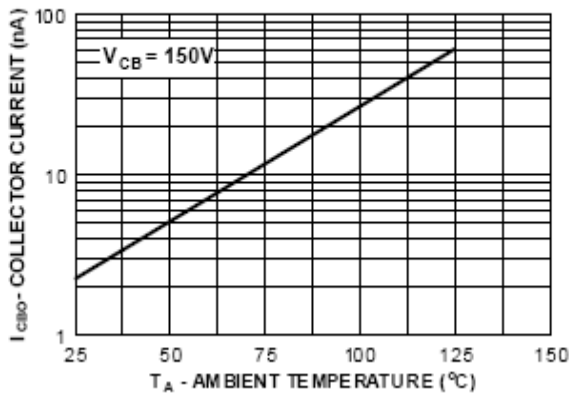
Base-Emitter Saturation Voltage vs Collector Current



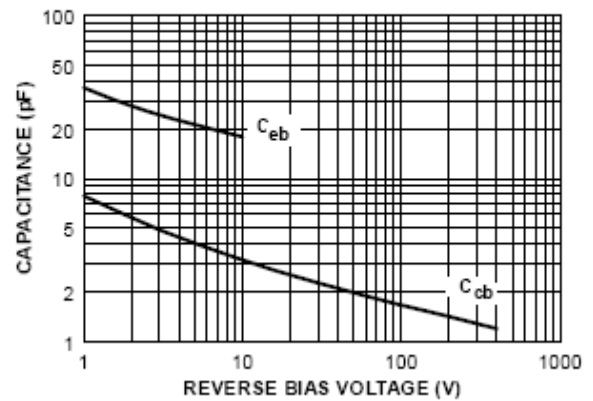
Base-Emitter ON Voltage vs Collector Current



Collector-Cutoff Current vs Ambient Temperature



Collector-Base and Emitter-Base Capacitance vs Reverse Bias Voltage



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