

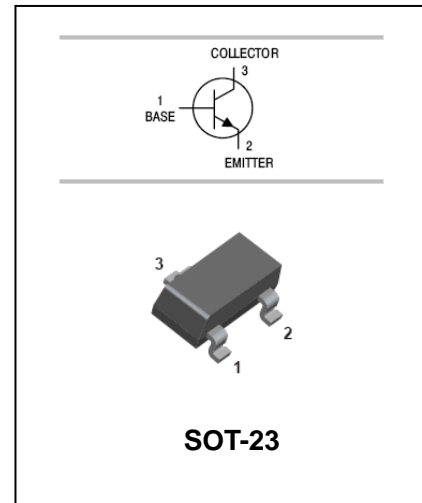


NPN High Voltage Amplifier

MMBTA42

FEATURES

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



APPLICATIONS

- NPN High voltage amplifier.

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 _{θJA}	Thermal resistance, junction to ambient	357	°C/W
T _J , T _{stg}	Junction and storage temperature	-55 to +150	°C



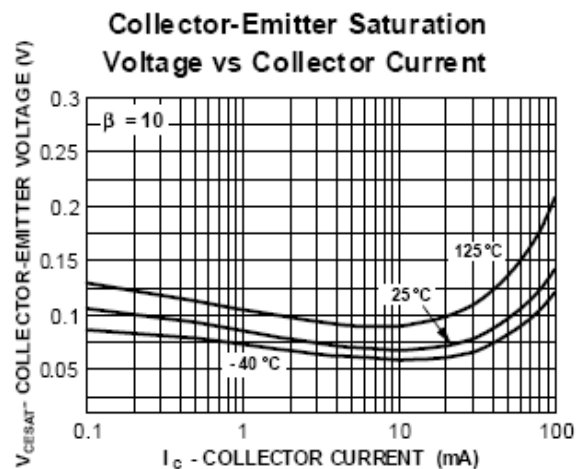
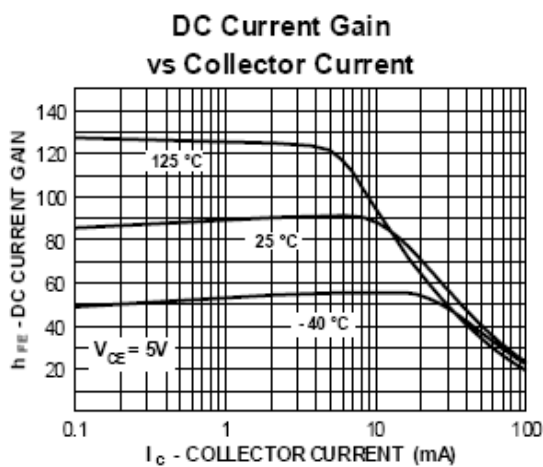
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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

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

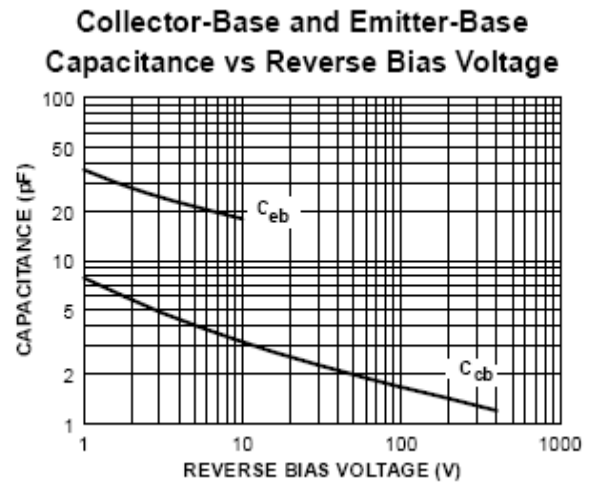
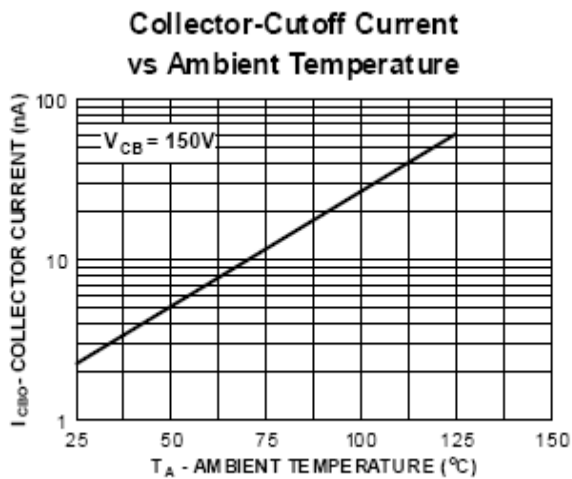
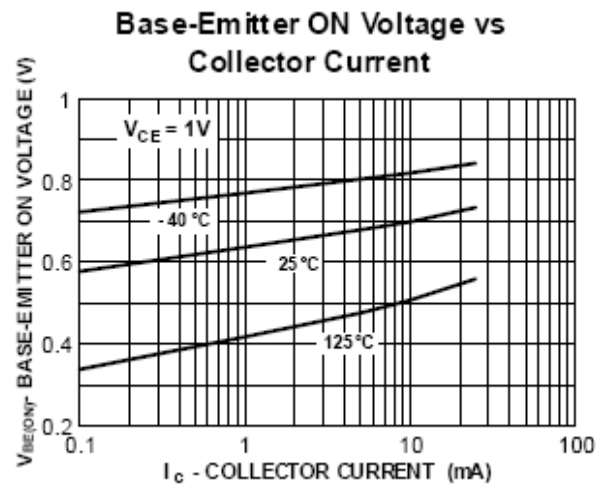
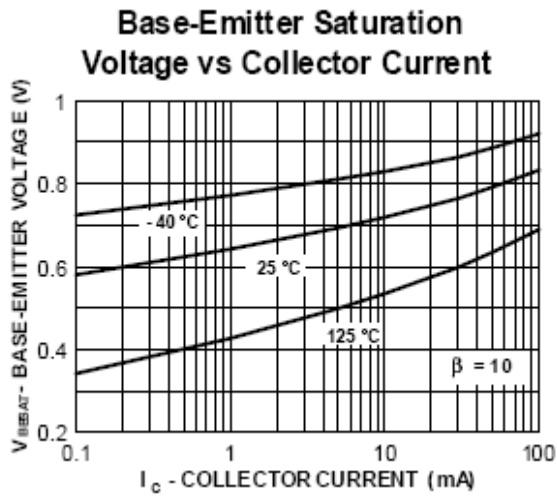
TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified





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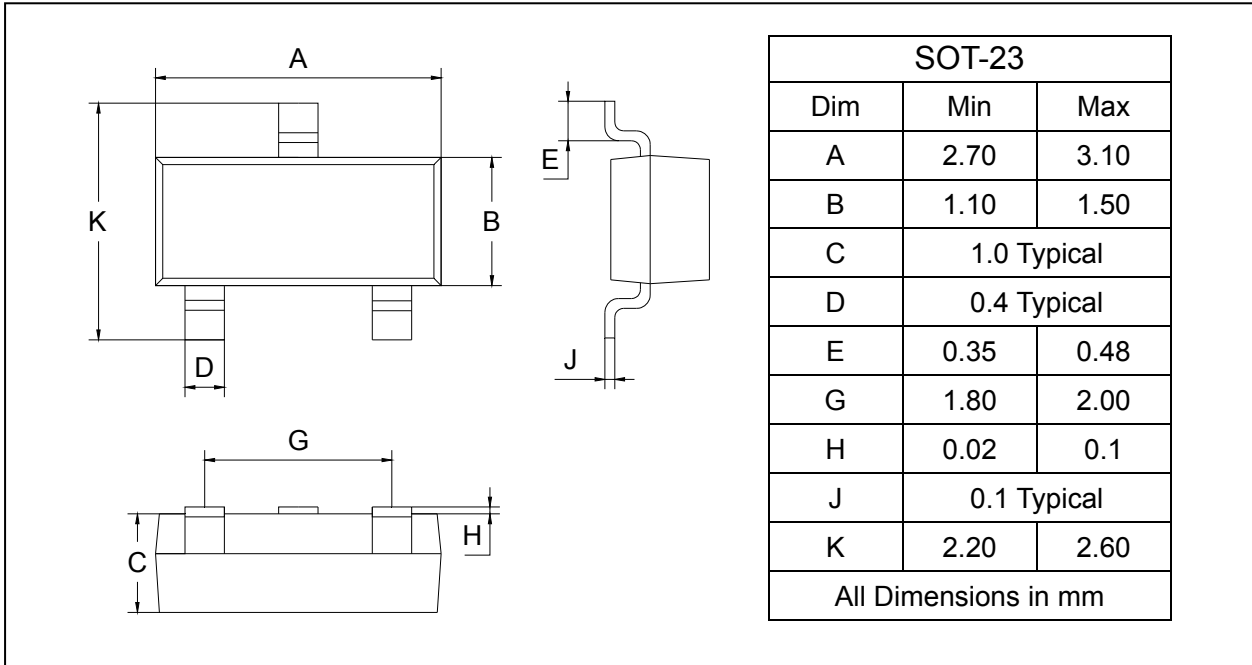
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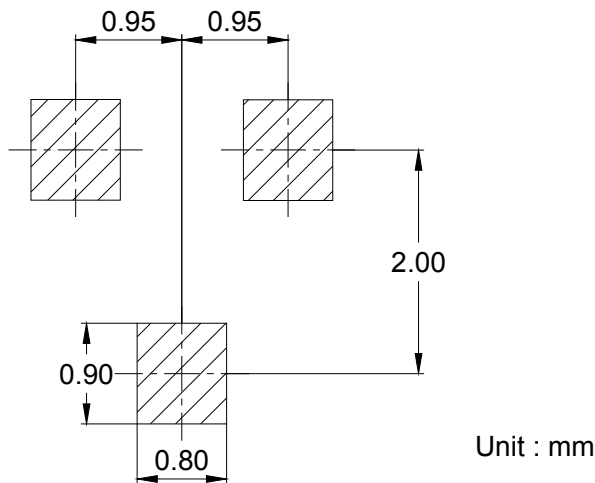
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

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