

NPN High Voltage Amplifier

MMBTA44

FEATURES

- Collector-Emitter voltage: $V_{CEO}=400V$.
- Collector current up to 300mA.
- Complement to MMBTA94.
- Power dissipation: $P_d(\max)=350mW$.



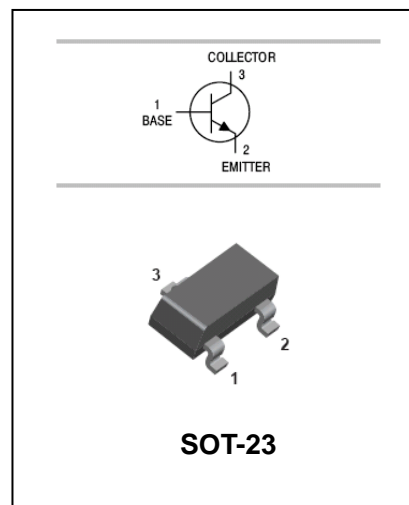
Lead-free

APPLICATIONS

- High voltage transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
MMBTA44	3D	SOT-23



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

Symbol	Parameter	Value	UNIT
V_{CBO}	collector-base voltage	500	V
V_{CEO}	collector-emitter voltage	400	V
V_{EBO}	emitter-base voltage	6	V
I_C	collector current (DC)	0.3	A
P_C	Collector dissipation	0.35	W
$R_{\theta JA}$	Thermal resistance Junction-to-ambient	200	$^{\circ}C/W$
T_j, T_{stg}	junction and storage temperature	-40 to +150	$^{\circ}C$



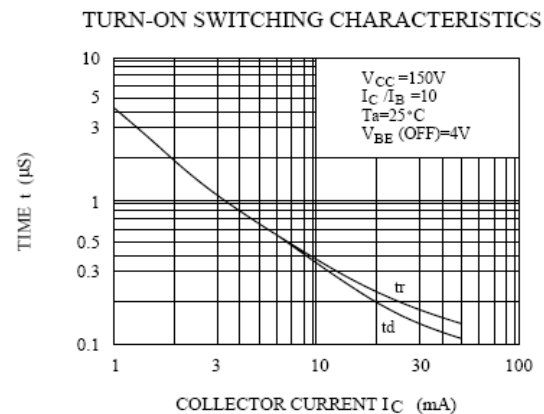
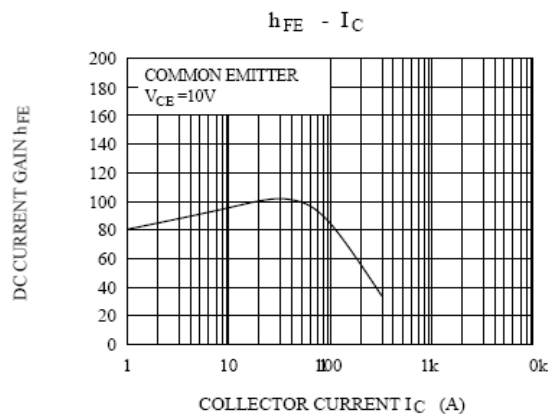
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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Symbol	Parameter	Test conditions	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	500	-	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1.0mA, I_B=0$	400	-	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=10\mu A, I_C=0$	6	-	V
I_{CBO}	collector cut-off current	$I_E = 0, V_{CB} = 400V$	-	0.1	μA
I_{CES}	collector cut-off current	$V_{BE} = 0, V_{CE} = 400V$	-	0.5	μA
I_{EBO}	emitter cut-off current	$I_C = 0, V_{EB} = 4V$	-	0.1	μA
h_{FE}	DC current gain	$V_{CE} = 10V; I_C=1mA$ $V_{CE} = 10V; I_C = 10mA$ $V_{CE} = 10V; I_C = 50mA$ $V_{CE} = 10V; I_C = 100mA$	40 100 45 40	- 200 - -	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C = 1mA; I_B = 0.1mA$ $I_C = 10mA; I_B = 1mA$ $I_C = 50mA; I_B = 5mA$	-	0.4 0.5 0.75	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C = 10mA; I_B = 1mA$	-	0.75	V
f_T	Current gain bandwidth product	$V_{CE}=20V, I_C=10mA$ $F=100MHz$	50	-	MHz
C_{ob}	Output Capacitance	$V_{CB}=20V, I_E = 0, f=1MHz$	-	7	pF

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

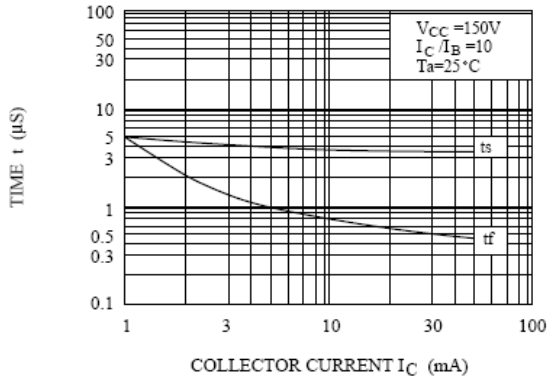




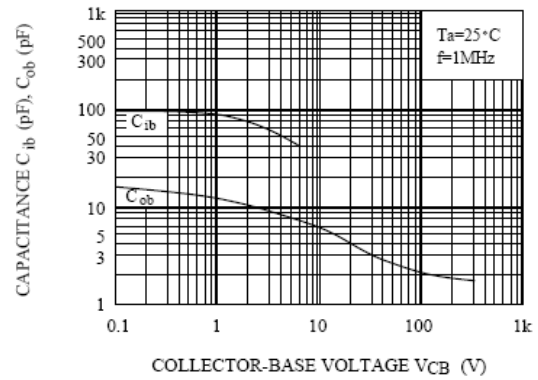
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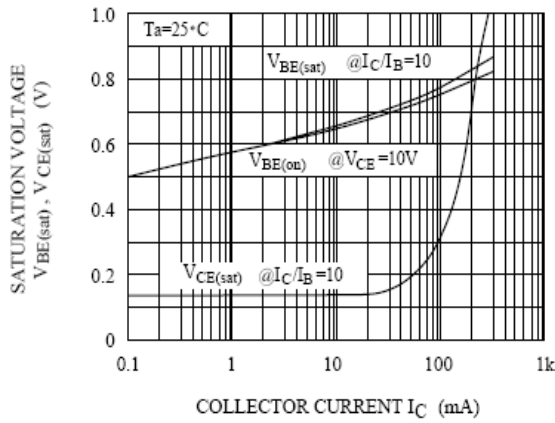
TURN-OFF SWITCHING CHARACTERISTICS



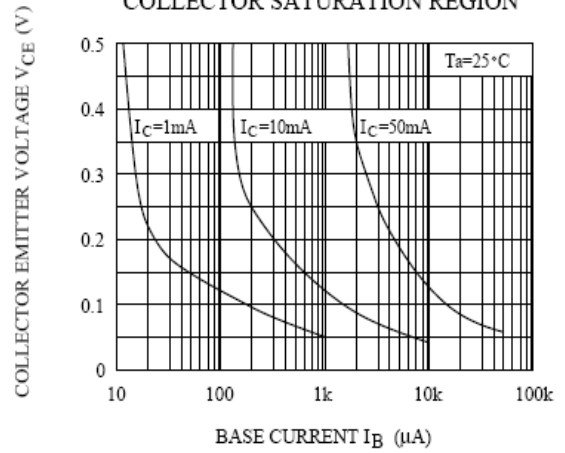
C_{ib} , C_{ob} - V_{CB}



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



COLLECTOR SATURATION REGION



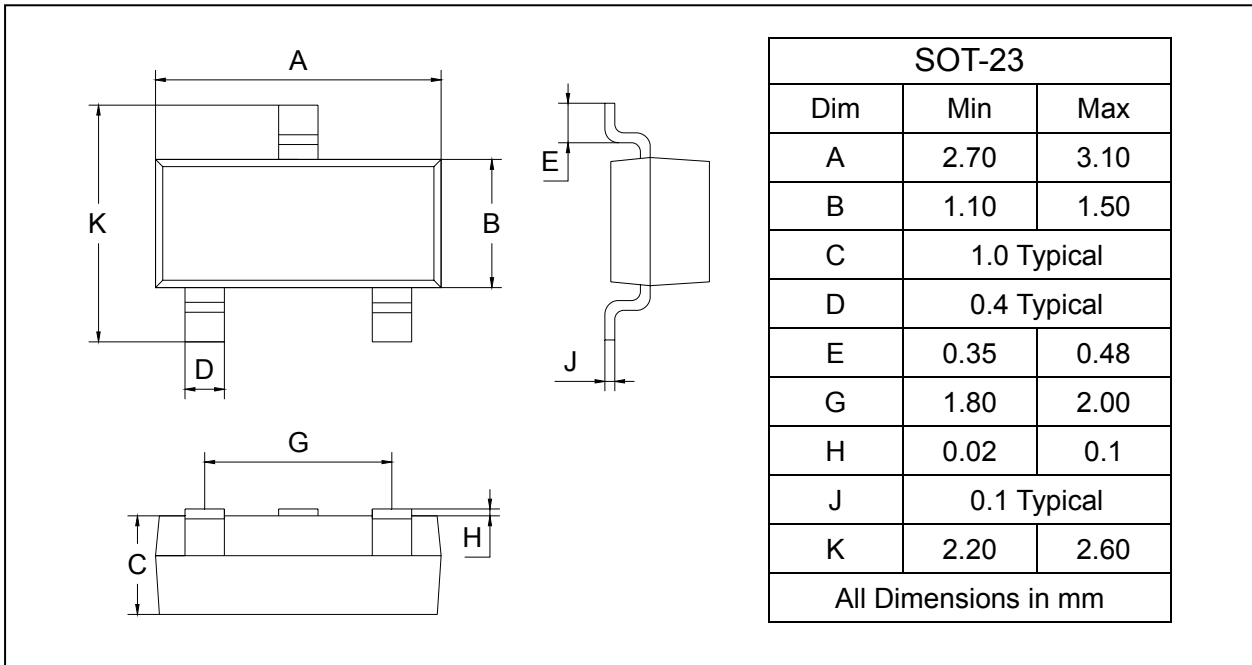
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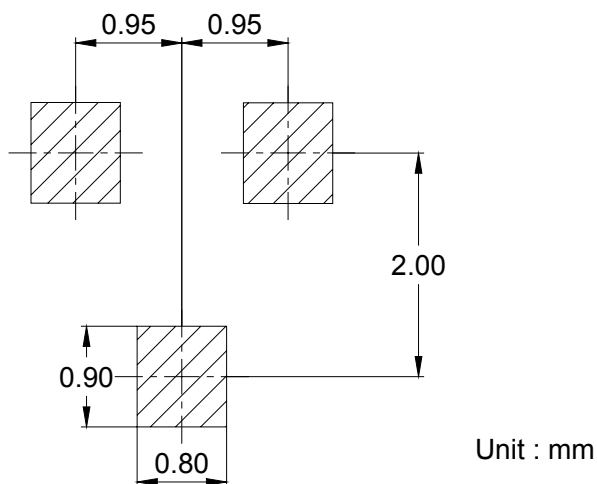
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
MMBTA44	SOT-23	3000/Tape&Reel

www.s-manuals.com