

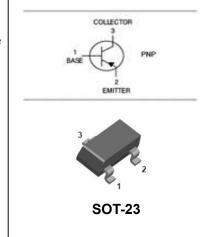
#### MMBTA92

#### **FEATURES**

- Epitaxial planar die construction.
- Complementary NPN type available (MMBTA42).
- Ideal for medium power amplification and switching.







#### **APPLICATIONS**

High voltage driver applications.

#### ORDERING INFORMATION

Type No.	Marking	Package Code	
MMBTA92□	2D	SOT-23	

 $<sup>\</sup>square$ : none is for Lead Free package;

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

Symbol	Parameter	Value	UNIT
$V_{CBO}$	collector-base voltage	-300	V
$V_{\text{CEO}}$	collector-emitter voltage	-300	V
$V_{EBO}$	emitter-base voltage	-5	V
Ic	collector current (DC)	-0.5	Α
R <sub>0</sub> JA	Thermal resistance,junction to ambient	417	°C/W
Pc	Collector dissipation	0.3	W
$T_{j}$ , $T_{stg}$	junction and storage temperature	-55 to +150	°C

<sup>&</sup>quot;G" is for Halogen Free package.

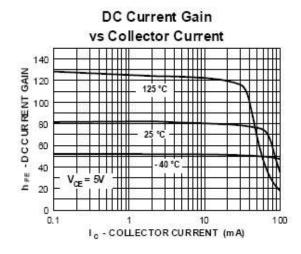


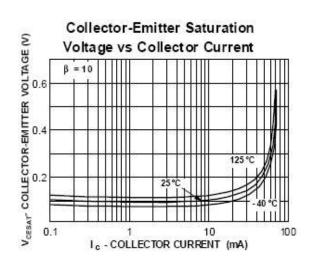
#### MMBTA92

### ELECTRICAL CHARACTERISTICS @ $Ta=25^{\circ}C$ unless otherwise specified

Symbol	Parameter	Test conditions	MIN.	MAX.	UNIT
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =-100μA,I <sub>E</sub> =0	-300		
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =-1mA,I <sub>B</sub> =0	-300		
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =-100μA,I <sub>C</sub> =0	-5		
I <sub>CBO</sub>	collector cut-off current	I <sub>E</sub> = 0; V <sub>CB</sub> = -200V	-	-0.25	μA
I <sub>EBO</sub>	emitter cut-off current	I <sub>C</sub> = 0; V <sub>EB</sub> = -3V	-	-0.1	μA
h <sub>FE</sub>	DC current gain	$V_{CE} = -10V; I_{C} = -1mA$ $V_{CE} = -10V; I_{C} = -10mA$ $V_{CE} = -10V; I_{C} = -30mA$	25 40 25	-	
V <sub>CE(sat)</sub>	collector-emitter saturation voltage	$I_{C} = -20 \text{mA}; I_{B} = -2 \text{mA}$	-	-0.5	>
V <sub>BE(sat)</sub>	base-emitter saturation voltage	I <sub>C</sub> = -20mA; I <sub>B</sub> = -2mA	-	-0.9	V
C <sub>ob</sub>	Collector output capacitance	V <sub>CB</sub> =-20V,f=1.0MHz	-	6.0	pF
f⊤	transition frequency	$I_C = -10 \text{mA}; V_{CE} = -20 \text{V};$ f = 100 MHz	50	-	MHz

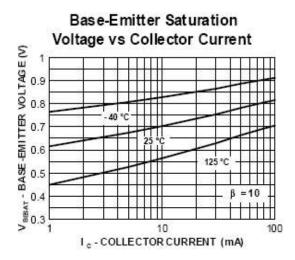
#### TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

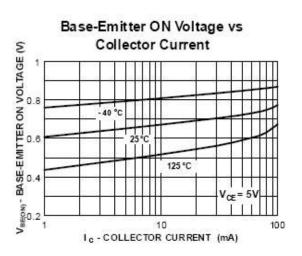




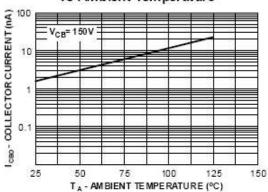


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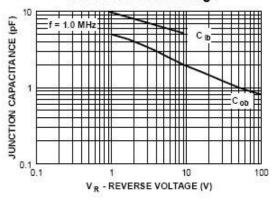




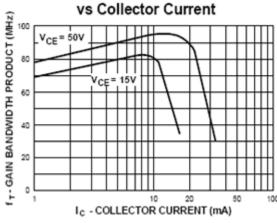
Collector-Cut off Current vs Ambient Temperature



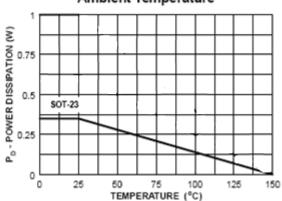
Junction Capacitance vs Reverse Bias Voltage



Gain Bandwidth Product



Power Dissipation vs Ambient Temperature



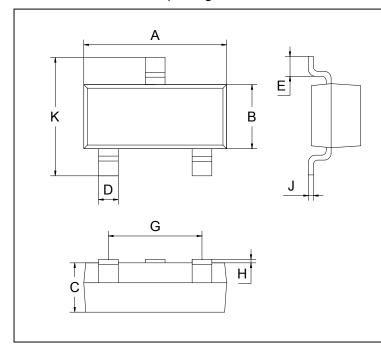


## MMBTA92

#### PACKAGE OUTLINE

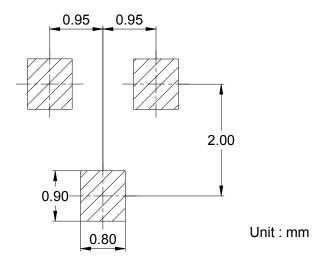
Plastic surface mounted package

SOT-23



SOT-23			
Dim	Min	Max	
Α	2.70	3.10	
В	1.10	1.50	
С	0.90	1.10	
D	0.30	0.50	
E	0.35	0.48	
G	1.80	2.00	
Н	0.02	0.10	
J	0.05	0.15	
K	2.20	2.60	
All Dimensions in mm			

## **SOLDERING FOOTPRINT**



#### PACKAGE INFORMATION

Device	Package	Shipping
MMBTA92	SOT-23	3000/Tape&Reel

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