

# MMBTA92

## PNP HIGH VOLTAGE TRANSISTOR

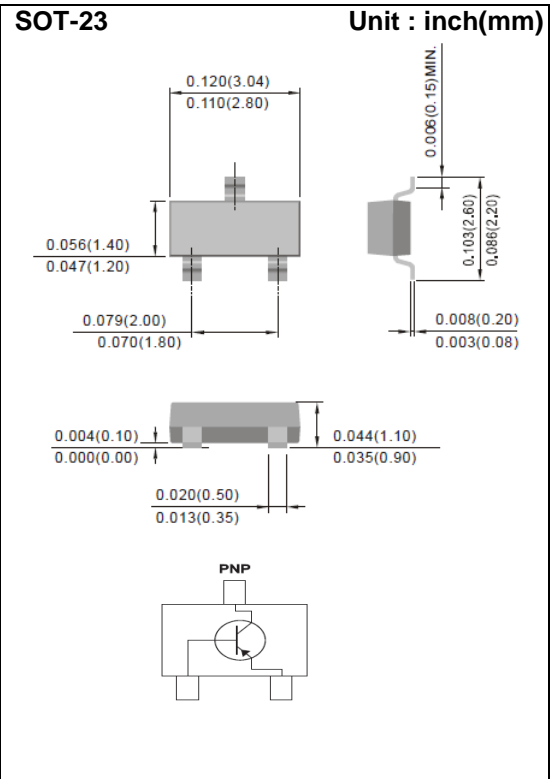
**VOLTAGE** 300 Volt **POWER** 250 mWatt

### FEATURES

- PNP silicon, planar design
- High voltage (max. 300V)
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.0084 grams
- Marking: A92



### ABSOLUTE RATINGS

PARAMETER	CONDITIONS	SYMBOL	MIN.	MAX.	UNIT
Collector-base voltage	open emitter	V <sub>CB0</sub>	-300	-	V
Collector-emitter voltage	open base	V <sub>CEO</sub>	-300	-	V
Emitter-base voltage	open collector	V <sub>EBO</sub>	-5	-	V
Collector current (DC)		I <sub>C</sub>	-	-500	mA
Peak collector current		I <sub>CM</sub>	-	-600	mA
Peak base current		I <sub>BM</sub>	-	-100	mA
Total power dissipation	T <sub>AMB</sub> <25°C ; note 1	P <sub>TOT</sub>	-	250	mW
Storage temperature		T <sub>STG</sub>	-55	+150	°C
Junction temperature		T <sub>J</sub>	-55	+150	°C
Operating ambient temperature		T <sub>AMB</sub>	-55	+150	°C

Note 1: Mounted on FR4 PCB at 1 inch square copper pad.

# MMBTA92

## THERMAL CHARACTERISTICS

PARAMETER	CONDITIONS	SYMBOL	VALUE	UNIT
Typical Thermal resistance from junction to ambient	note 1	$R_{\theta JA}$	500	$^{\circ}\text{C}/\text{W}$

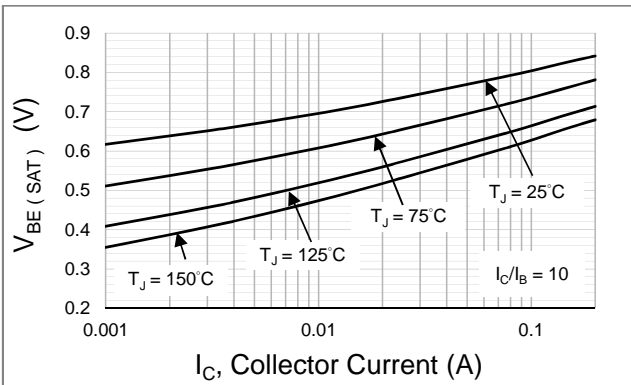
Note 1: Mounted on FR4 PCB at 1 inch square copper pad.

## CHARACTERISTICS $T_{AMB}=25^{\circ}\text{C}$ unless otherwise specified

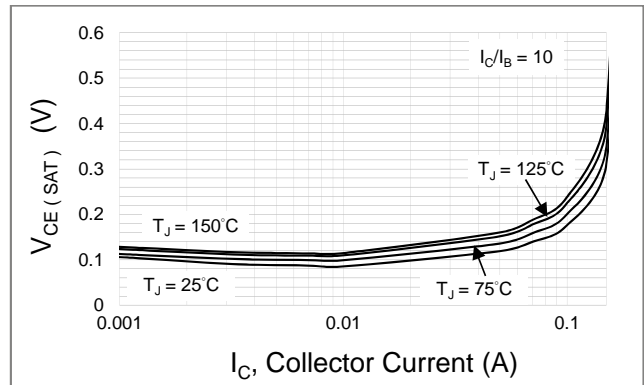
PARAMETER	CONDITIONS	SYMBOL	MIN.	MAX.	UNIT
Collector-emitter breakdown voltage	$I_C=-1\text{mA}; I_B=0$	$V_{(BR)CEO}$	-300	-	V
Collector-base breakdown voltage	$I_C=-100\mu\text{A}; I_E=0$	$V_{(BR)CBO}$	-300	-	V
Emitter-base breakdown voltage	$I_E=-100\mu\text{A}; I_C=0$	$V_{(BR)EBO}$	-5	-	V
Collector cut-off current	$I_E=0; V_{CB}=-200\text{V}$	$I_{CBO}$	-	-250	nA
Collector-emitter cut-off current	$V_{CES}=-300\text{V}$	$I_{CES}$	-	-250	nA
Emitter cut-off current	$I_C=0; V_{EB}=-3\text{V}$	$I_{EBO}$	-	-100	nA
DC current gain	$V_{CE}=-10\text{V}; \text{note 2}$ $I_C=-1\text{mA}$ $I_C=-10\text{mA}$ $I_C=-30\text{mA}$	$h_{FE}$	25 40 25	- - -	-
Collector-emitter saturation voltage	$I_C=-20\text{mA}; I_B=-2\text{mA}$	$V_{CE(SAT)}$	-	-500	mV
Base-emitter saturation voltage	$I_C=-20\text{mA}; I_B=-2\text{mA}$	$V_{BE(SAT)}$	-	-900	mV
Collector capacitance	$I_E=0; V_{CB}=-20\text{V};$ $f=1\text{MHz}$	$C_C$	-	6	pF
Transition frequency	$I_C=-10\text{mA}; V_{CE}=-20\text{V};$ $f=100\text{MHz}$	$f_T$	50	-	MHz

Note 2: Pulse test :  $t_p \leq 300\mu\text{s}; \delta < 0.02$

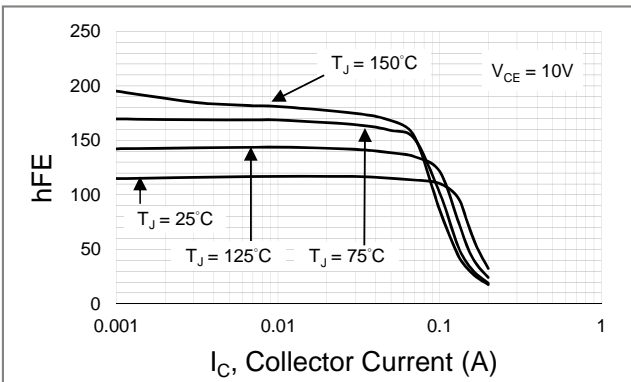
# MMBTA92



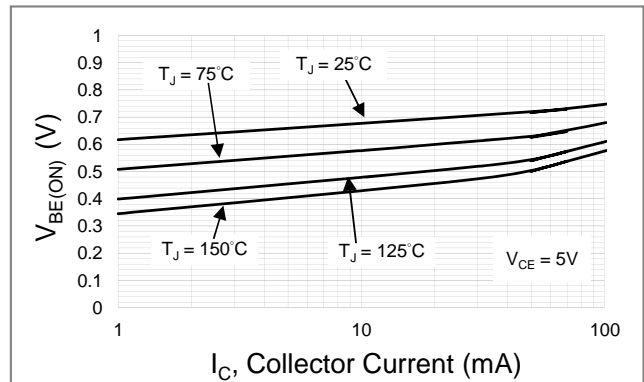
**Fig.1 Typical Base-Emitter Saturation Voltage**



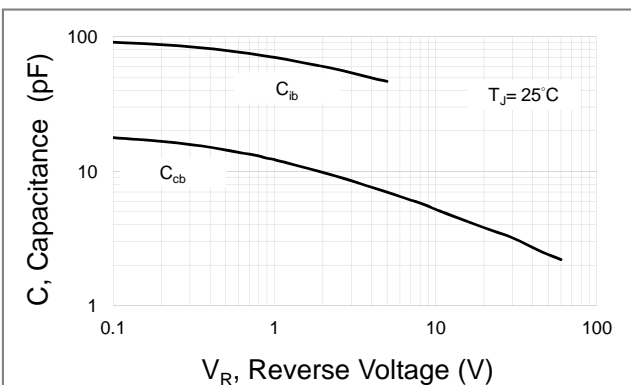
**Fig.2 Typical Collector-Emitter Saturation Voltage**



**Fig.3 Typical DC Current Gain vs Collector Current**



**Fig.4 Typical Base - Emitter Voltage vs Collector Current**



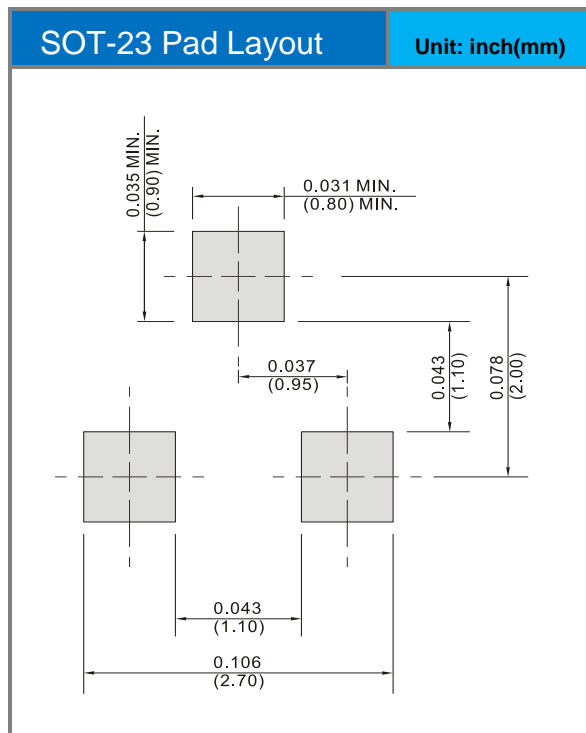
**Fig.5 Typical Capacitance**

# MMBTA92

## Product and Packing Information

Part No.	Package Type	Packing Type	Marking
MMBTA92	SOT-23	3K pcs / 7" reel	A92
MMBTA92	SOT-23	12K pcs / 13" reel	A92

## Mounting Pad Layout



## MMBTA92

---

### Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document follow PCN procedure. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.