

MMBTA92-AU

PNP HIGH VOLTAGE TRANSISTOR

VOLTAGE 300 Volt **POWER** 250 mWatt

FEATURES

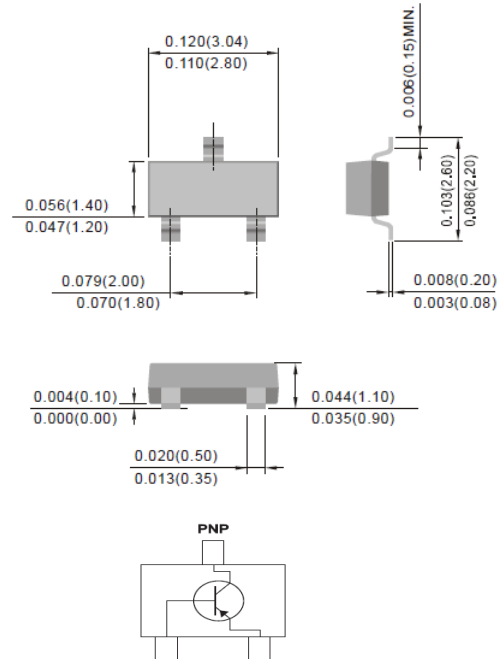
- PNP silicon, planar design
- High voltage (max. 300V)
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

MECHANICAL DATA

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

SOT-23

Unit : inch(mm)



ABSOLUTE RATINGS

PARAMETER	CONDITIONS	SYMBOL	MIN.	MAX.	UNIT
Collector-base voltage	open emitter	V_{CBO}	-300	-	V
Collector-emitter voltage	open base	V_{CEO}	-300	-	V
Emitter-base voltage	open collector	V_{EBO}	-5	-	V
Collector current (DC)		I_C	-	-500	mA
Peak collector current		I_{CM}	-	-600	mA
Peak base current		I_{BM}	-	-100	mA
Total power dissipation	$T_{AMB} < 25^{\circ}C$; note1	P_{TOT}	-	250	mW
Storage temperature		T_{STG}	-55	+150	$^{\circ}C$
Junction temperature		T_J	-55	+150	$^{\circ}C$
Operating ambient temperature		T_{AMB}	-55	+150	$^{\circ}C$

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



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THERMAL CHARACTERISTICS

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

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 : $t_p \leq 300\mu\text{s}; \delta < 0.02$

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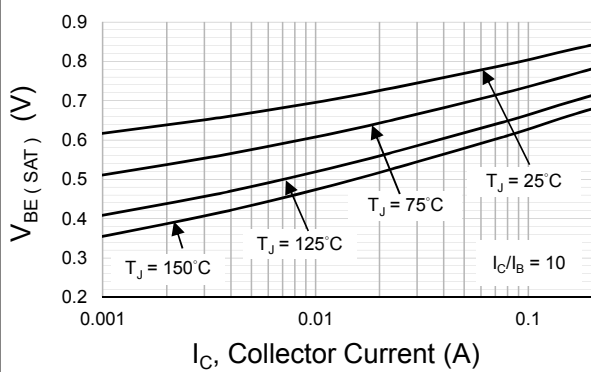


Fig.1 Typical Base-Emitter Saturation Voltage

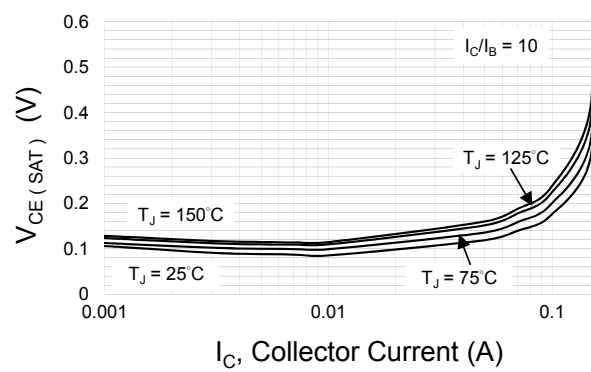


Fig.2 Typical Collector-Emitter Saturation Voltage

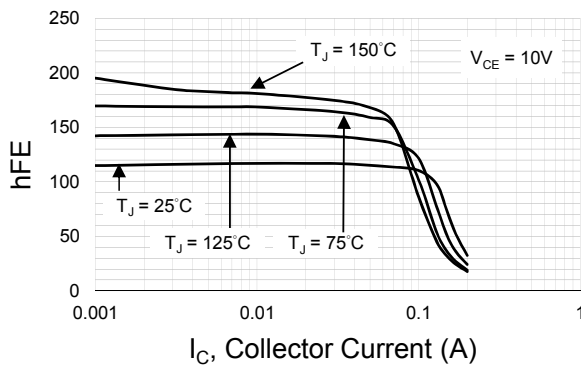


Fig.3 Typical DC Current Gain vs Collector Current

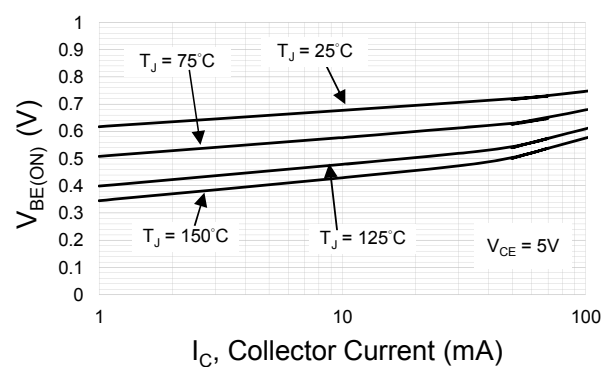


Fig.4 Typical Base - Emitter Voltage vs Collector Current

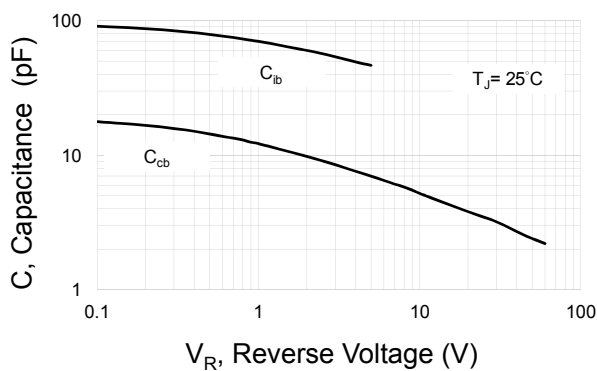


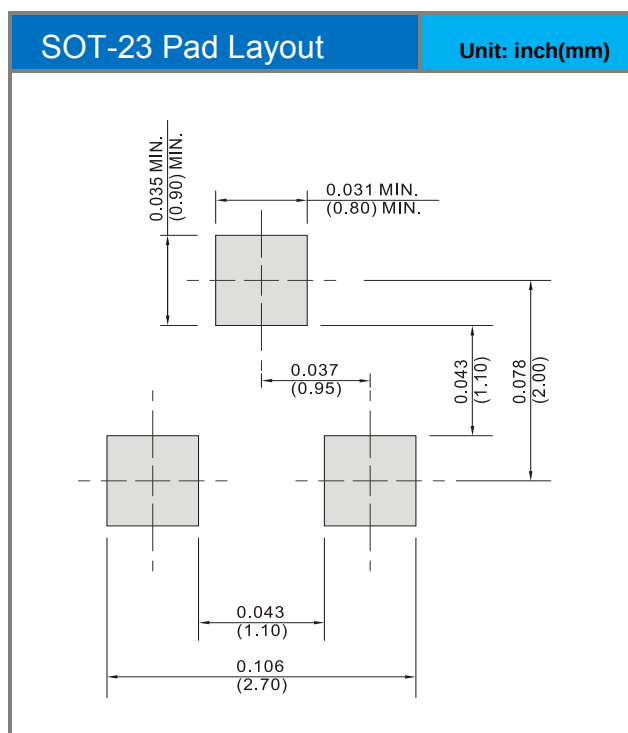
Fig.5 Typical Capacitance

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Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
MMBTA92-AU_R1_000A1	SOT-23	3K pcs / 7" reel	A92	Halogen free
MMBTA92-AU_R2_000A1	SOT-23	12K pcs / 13" reel	A92	Halogen free

Mounting Pad Layout





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