



MMBTA92

PNP HIGH VOLTAGE TRANSISTOR

VOLTAGE 300 Volts **POWER** 225 mWatts

SOT-23

Unit : inch(mm)

FEATURES

- PNP silicon, planar design
- High voltage (max. 300V)
- Lead free in comply with EU RoHS 2002/95/EC directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

Case: SOT-23, Plastic

Terminals: Solderable per MIL-STD-750, Method 2026

Approx. Weight: 0.008 grams

Marking: A92

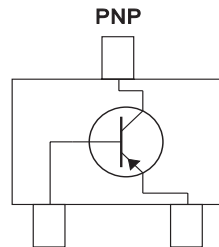
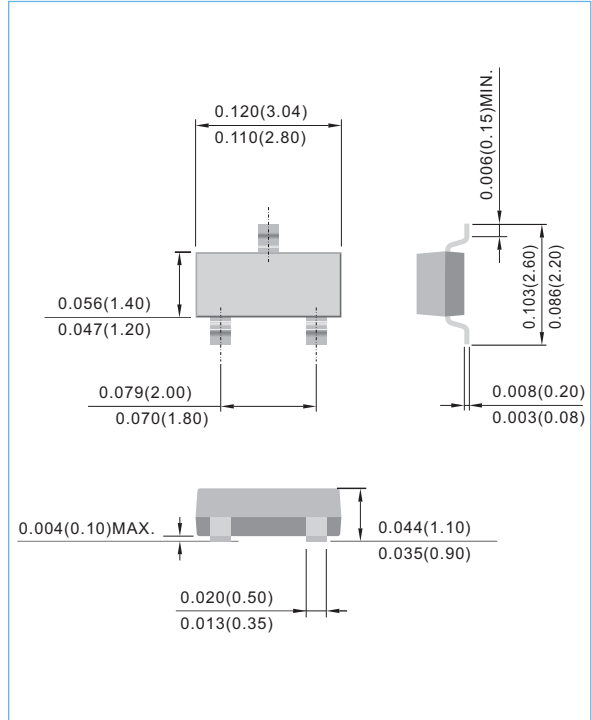


Fig.35



ABSOLUTE RATINGS

PARAMETER	CONDITIONS	SYMBOL	MIN.	MAX.	UNIT
Collector-base voltage	open emitter	V_{CB0}	-	-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}	-	225	mW
Storage temperature		T_{STG}	-65	+150	$^{\circ}C$
Junction temperature		T_J	-	150	$^{\circ}C$
Operating ambient temperature		T_{AMB}	-65	+150	$^{\circ}C$

Note 1: Transistor mounted on FR-4 board 70 x 60 x 1mm.



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THERMAL CHARACTERISTICS

PARAMETER	CONDITIONS	SYMBOL	VALUE	UNIT
Thermal resistance from junction to ambient	note 1	$R_{\theta JA}$	500	K/W

Note 1: Transistor mounted on FR-4 board 70 x 60 x 1mm.

CHARACTERISTICS

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

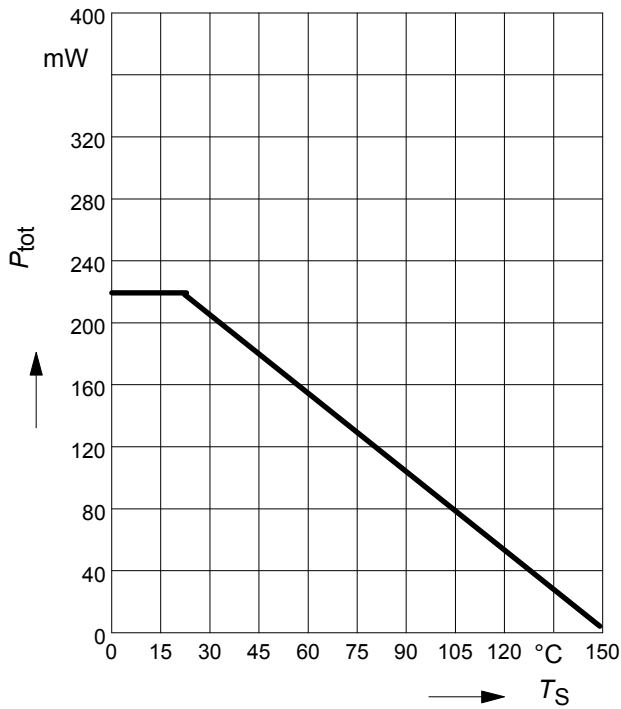
PARAMETER	CONDITIONS	SYMBOL	MIN.	MAX.	UNIT
Collector cut-off current	$I_E=0; V_{CB}=-200V$	I_{CBO}	-	-250	nA
Emitter cut-off current	$I_C=0; V_{EB}=-3V$	I_{EBO}	-	-100	nA
DC current gain	$V_{CE}=-10V$; note 2 $I_C=-1mA$ $I_C=-10mA$ $I_C=-30mA$	h_{FE}	25 40 25	- - -	-
Collector-emitter saturation voltage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

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



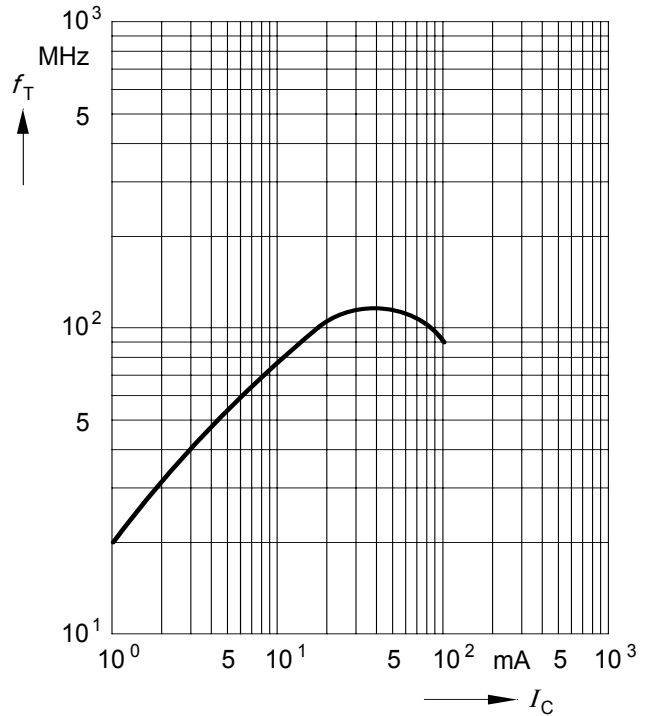
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Total power dissipation $P_{tot} = f(T_S)$



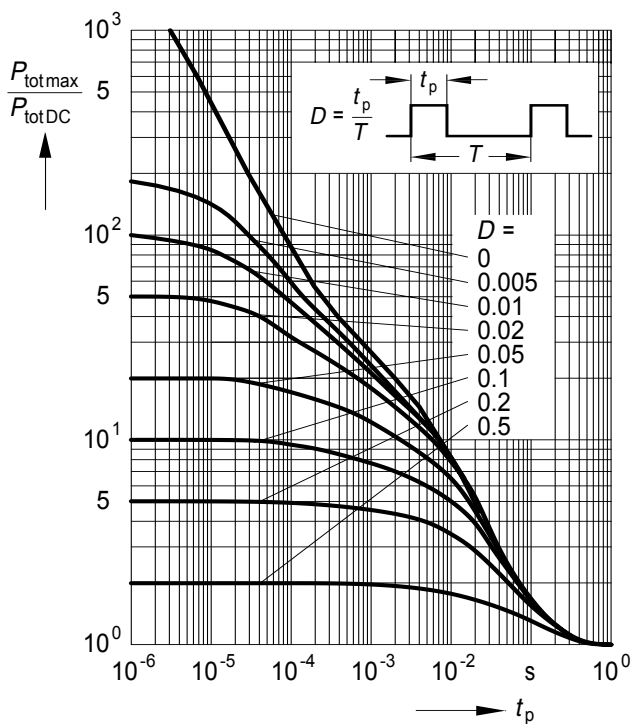
Transition frequency $f_T = f(I_C)$

$V_{CE} = 20V, f = 100MHz$



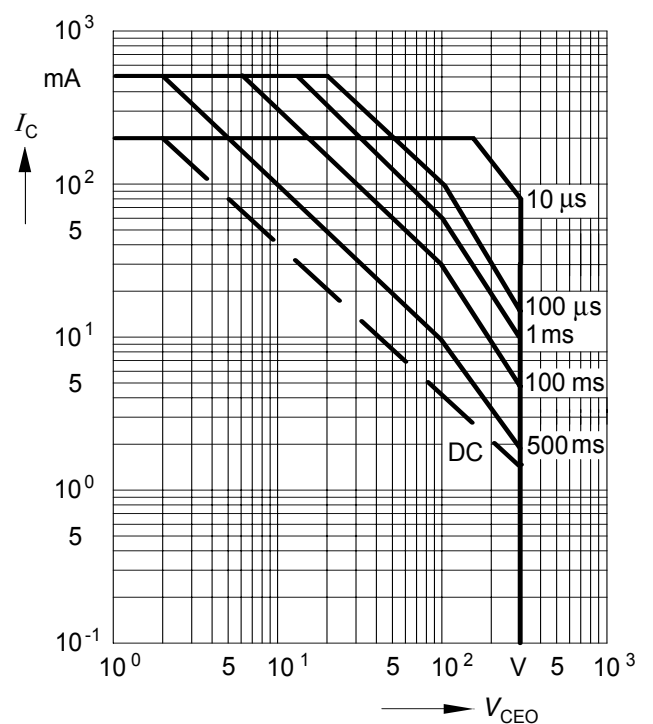
Permissible pulse load

$P_{totmax} / P_{totDC} = f(t_p)$



Operating range $I_C = f(V_{CE0})$

$T_A = 25^\circ C, D = 0$

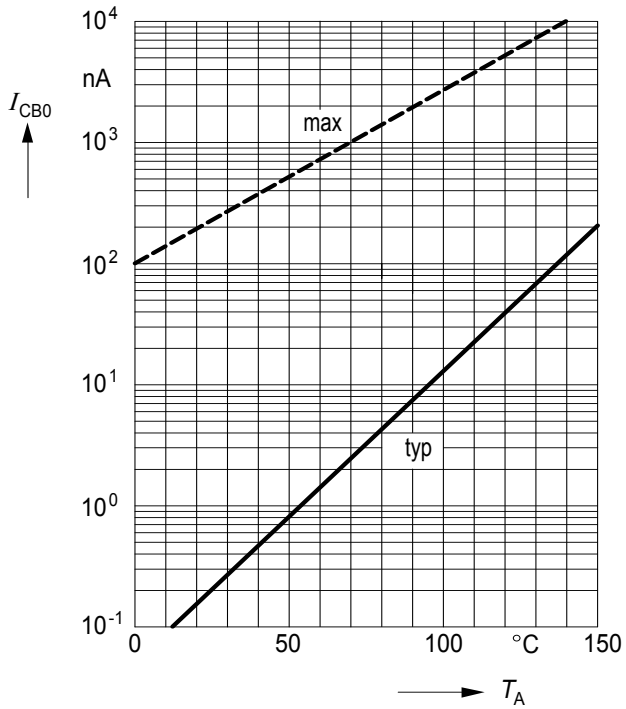




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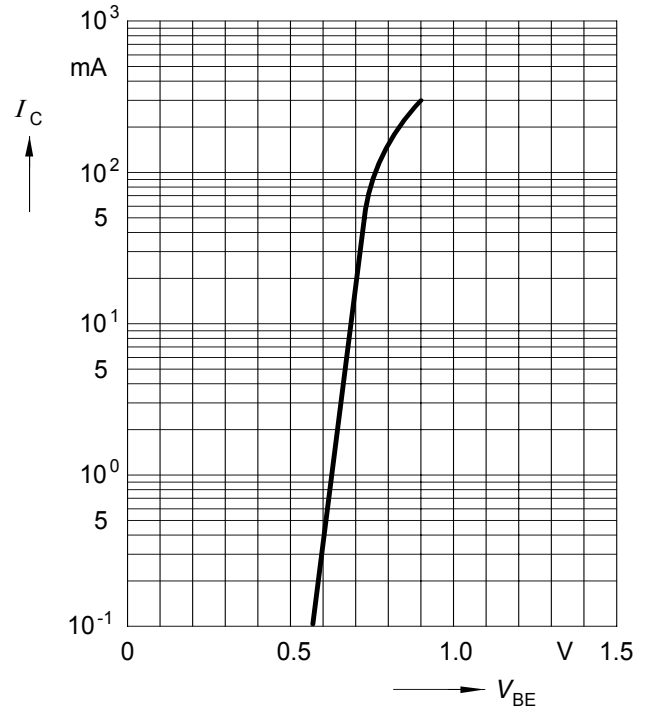
Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CB} = 200V$



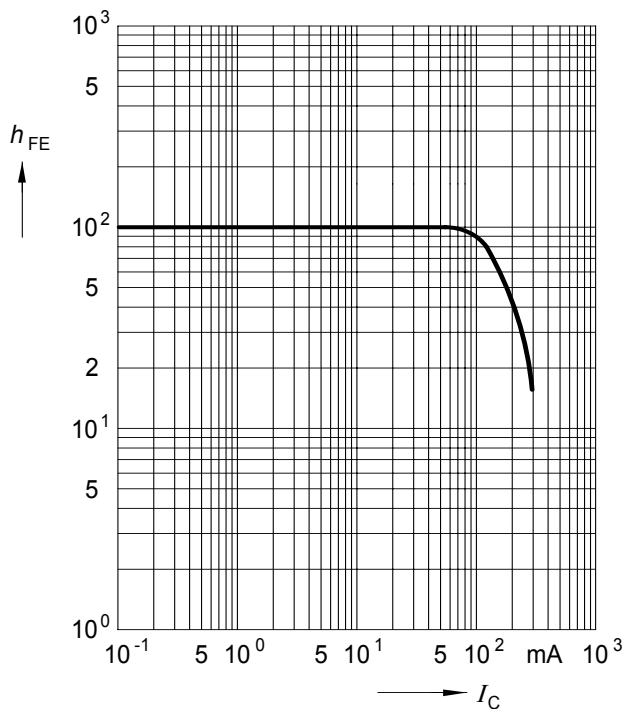
Collector current $I_C = f(V_{BE})$

$V_{CE} = 10V$

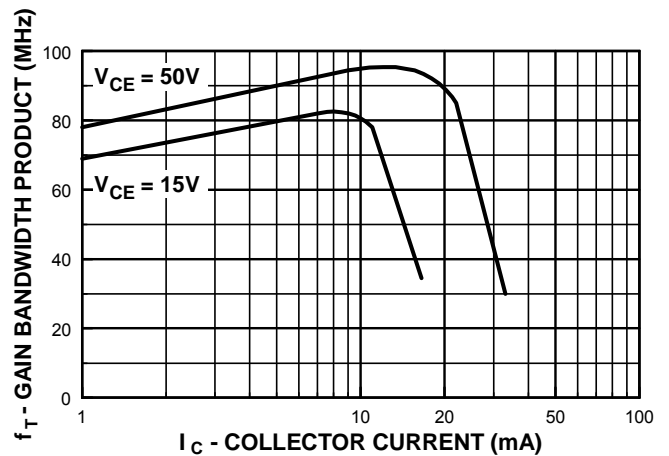


DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 10V$



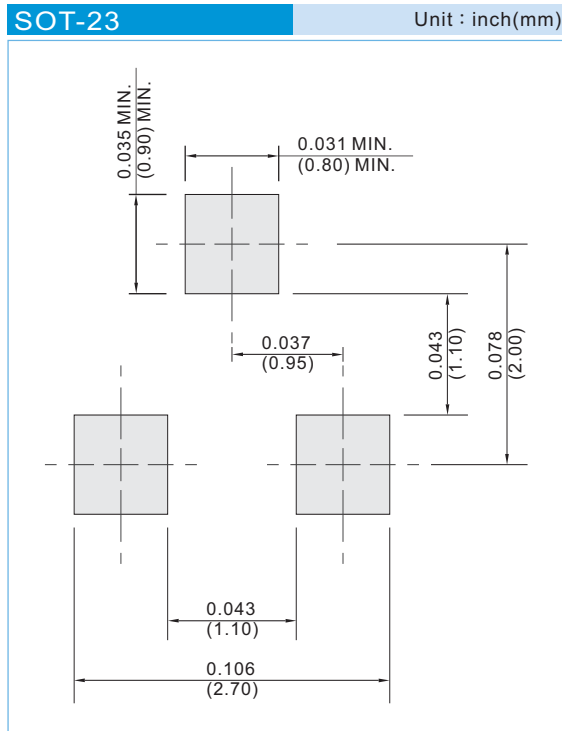
Gain Bandwidth Product vs Collector Current





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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information

T/R - 12K per 13" plastic Reel

T/R - 3K per 7" plastic Reel

LEGAL STATEMENT

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