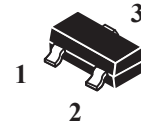
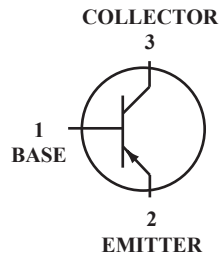


High-Voltage PNP Transistor Surface Mount

 Lead(Pb)-Free


SOT-23

Maximum Ratings

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	-300	Vdc
Collector-Base Voltage	V _{CB0}	-300	Vdc
Emitter-Base Voltage	V _{EB0}	-5.0	Vdc
Collector Current-Continuous	I _C	-500	mA _{dc}

Thermal Characteristics

Characteristics	Symbol	Max	Unit
Total Device Dissipation FR-5 Board ⁽¹⁾ T _A =25 °C Derate above 25 °C	P _D	225 1.8	mW mW/ °C
Thermal Resistance, Junction to Ambient	R _{θJA}	556	°C/W
Total Device Dissipation Alumina Substrate, ⁽²⁾ T _A =25 °C Derate above 25 °C	P _D	300 2.4	mW mW/ °C
Thermal Resistance, Junction to Ambient	R _{θJA}	417	°C/W
Junction and Storage, Temperature	T _J , T _{stg}	-55 to +150	°C

Device Marking

MMBTA92=2D

Electrical Characteristics (T_A=25°C Unless Otherwise noted)

Characteristics	Symbol	Min	Max	Unit
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Off Characteristics

Collector-Emitter Breakdown Voltage ⁽³⁾ (I _C =-1.0mA _{dc} , I _B =0)	V _{(BR)CEO}	-300	-	Vdc
Collector-Base Breakdown Voltage (I _C =-100μA _{dc} , I _E =0)	V _{(BR)CBO}	-300	-	Vdc
Emitter-Base Breakdown Voltage (I _E =-10μA _{dc} , I _C =0)	V _{(BR)EBO}	-5.0	-	Vdc
Collect Cutoff Current (V _{CB} = -200Vdc, I _E =0)	I _{CBO}	-	-0.25	μA _{dc}
Emitte Cutoff Current (V _{EB} =3V, I _C =0)	I _{EBO}	-	-0.1	μA _{dc}

1.FR-5=1.0 x 0.75 x 0.062 in.

2.Alumina=0.4 x 0.3 x 0.024 in. 99.5% alumina.

3.Pulse Test:Pulse Width ≤300 μS, Duty Cycle ≤2.0%.

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted) (Continued)

Characteristics	Symbol	Min	Max	Unit
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On Characteristics

DC Current Gain ($I_C = -1.0\text{ mAdc}$, $V_{CE} = -10\text{Vdc}$) ($I_C = -10\text{ mAdc}$, $V_{CE} = -10\text{Vdc}$) ($I_C = -30\text{ mAdc}$, $V_{CE} = -10\text{Vdc}$)	$H_{FE}(1)$ $H_{FE}(2)$ $H_{FE}(3)$	25 100 25	- 200 -	-
Collector-Emitter Saturation Voltage (3) ($I_C = -20\text{ mAdc}$, $I_B = -2.0\text{ mAdc}$)	$V_{CE(sat)}$	-	0.5	Vdc
Base-Emitter Saturation Voltage (3) ($I_C = -20\text{ mAdc}$, $I_B = -2.0\text{ mAdc}$)	$V_{BE(sat)}$	-	0.9	Vdc
Current-Gain-Bandwidth Product ($I_C = -10\text{ mAdc}$, $V_{CE} = -5\text{ Vdc}$, $f = 30\text{ MHz}$)	f_T	50	-	MHz

Typical Characteristics

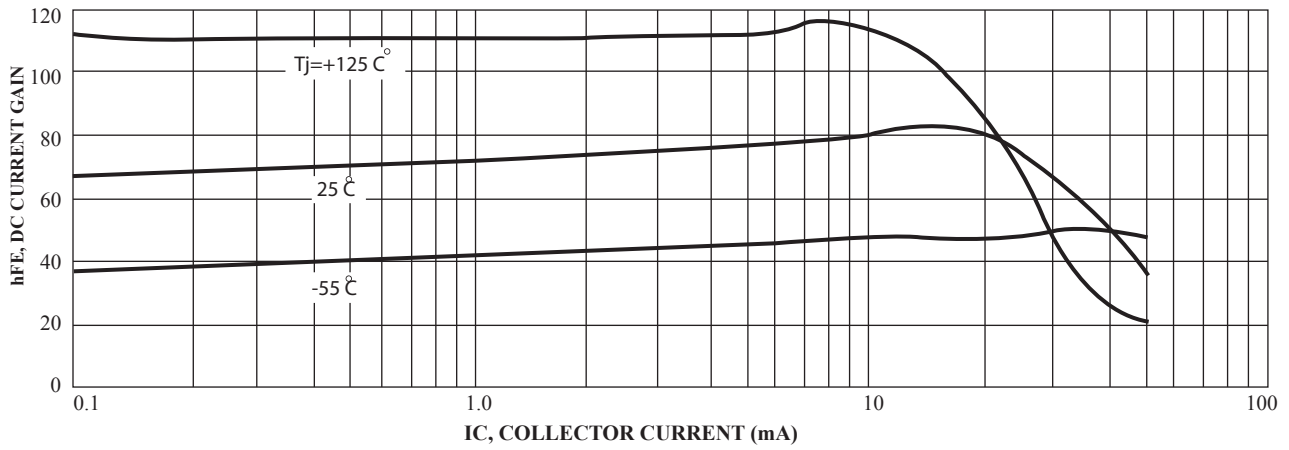


Figure 1, DC Current Gain

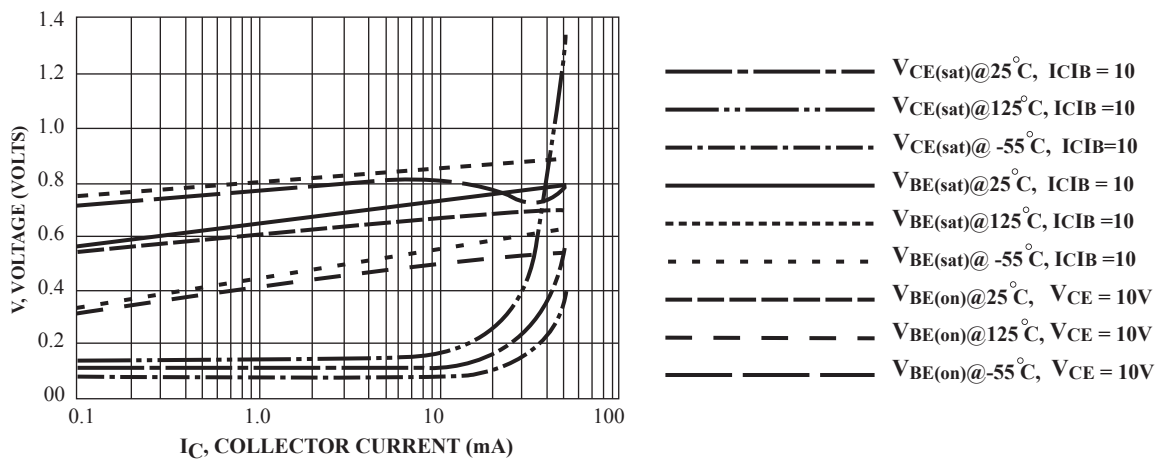


Figure 2, "On" Voltages

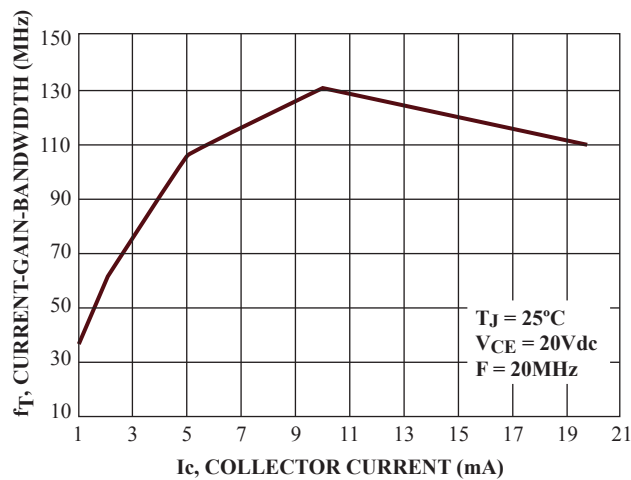
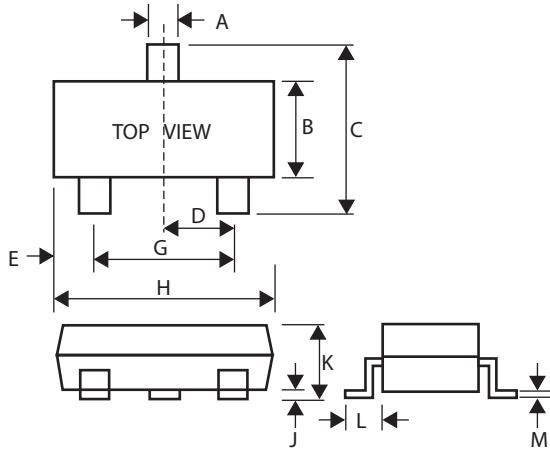


Figure 3, Current-Gain- Bandwidth

SOT-23 Package Outline Dimension



SOT-23		
Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25