



Micro Commercial Components

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Features

- Surface Mount SOT-23 Package
- Capable of 300mWatts of Power Dissipation
- Case Material:Molded Plastic. UL Flammability Classificatio Rating 94-0 and MSL Rating 1
- Marking:2D

MMBTA92

PNP Silicon High Voltage Transistor

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ($I_C=-1.0\text{mA}$, $I_B=0$)	-300		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=-100\mu\text{A}$, $I_E=0$)	-300		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=-100\mu\text{A}$, $I_C=0$)	-5		Vdc
I_C	Collector Current-Continuous	-300		mA
I_{CBO}	Collector Cutoff Current ($V_{CB}=-20\text{Vdc}$, $I_E=0$)		-250	nA
I_{EBO}	Emitter Cutoff Current ($V_{EB}=-5\text{Vdc}$, $I_C=0$)		-100	nA

ON CHARACTERISTICS

β_{FE}	DC Current Gain* ($I_C=-1.0\text{mA}$, $V_{CE}=-10\text{Vdc}$) ($I_C=-10\text{mA}$, $V_{CE}=-10\text{Vdc}$) ($I_C=-30\text{mA}$, $V_{CE}=-10\text{Vdc}$)	60 100 60	200	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=-20\text{mA}$, $I_B=-2.0\text{mA}$)		-0.2	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=-20\text{mA}$, $I_B=-2.0\text{mA}$)		-0.9	Vdc

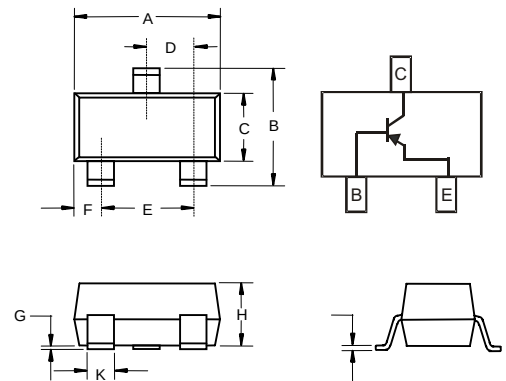
SMALL-SIGNAL CHARACTERISTICS

f_T	Current Gain-Bandwidth Product ($I_C=-10\text{mA}$, $V_{CE}=-20\text{Vdc}$, $f=30\text{MHz}$)	50		MHz
C_{cb}	Collector-Base Capacitance ($V_{CB}=-20\text{Vdc}$, $I_E=0$, $f=1.0\text{MHz}$)		6.0	pF

THERMAL CHARACTERISTICS

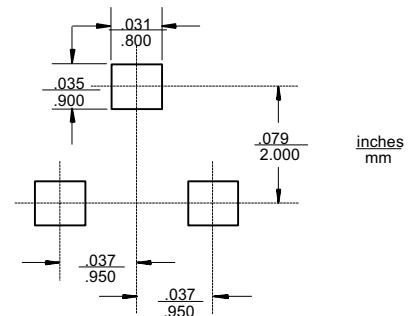
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,(1) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate,(2) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



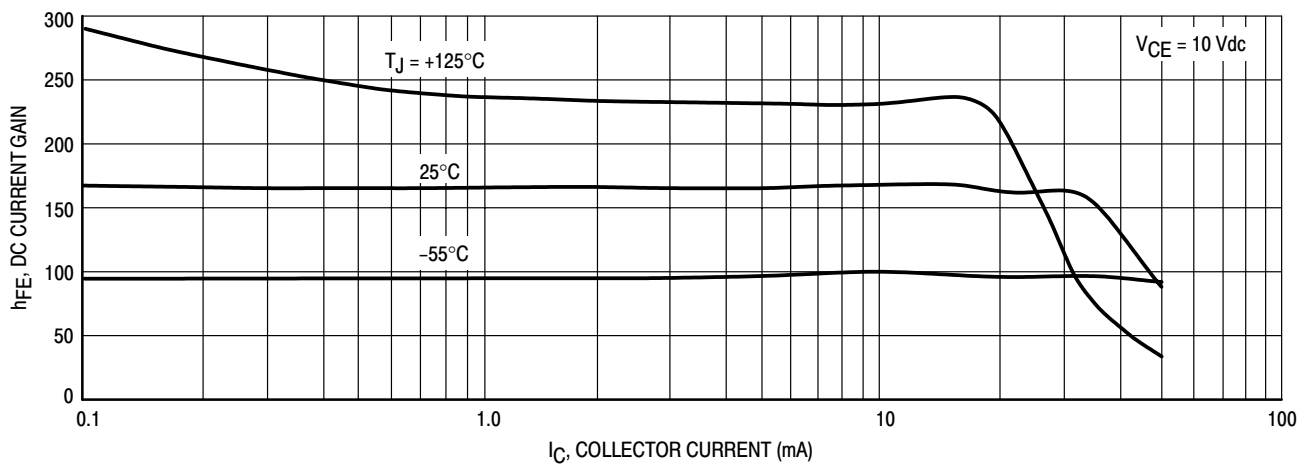


Figure 1. DC Current Gain

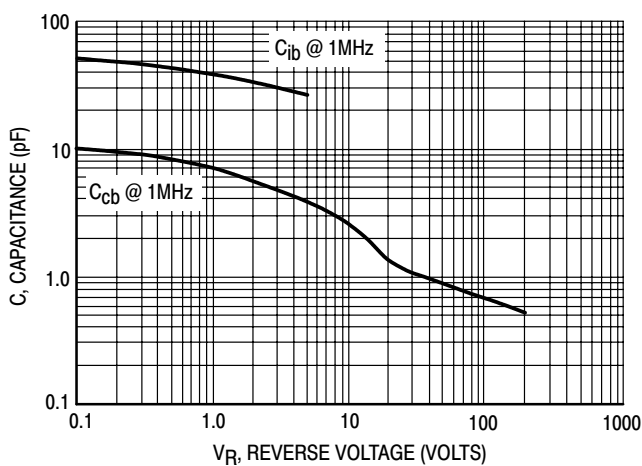


Figure 2. Capacitance

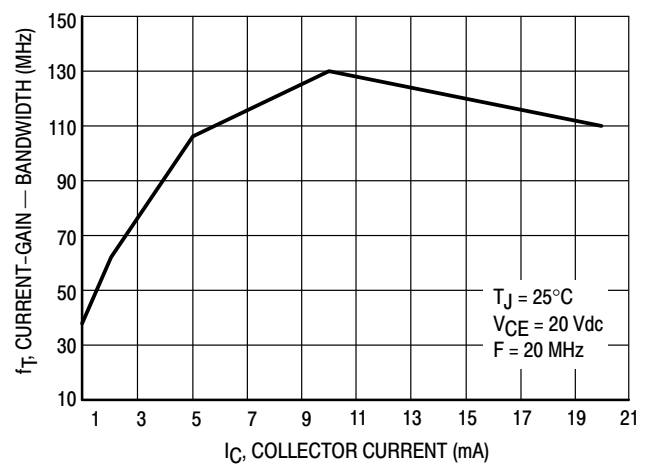


Figure 3. Current-Gain – Bandwidth

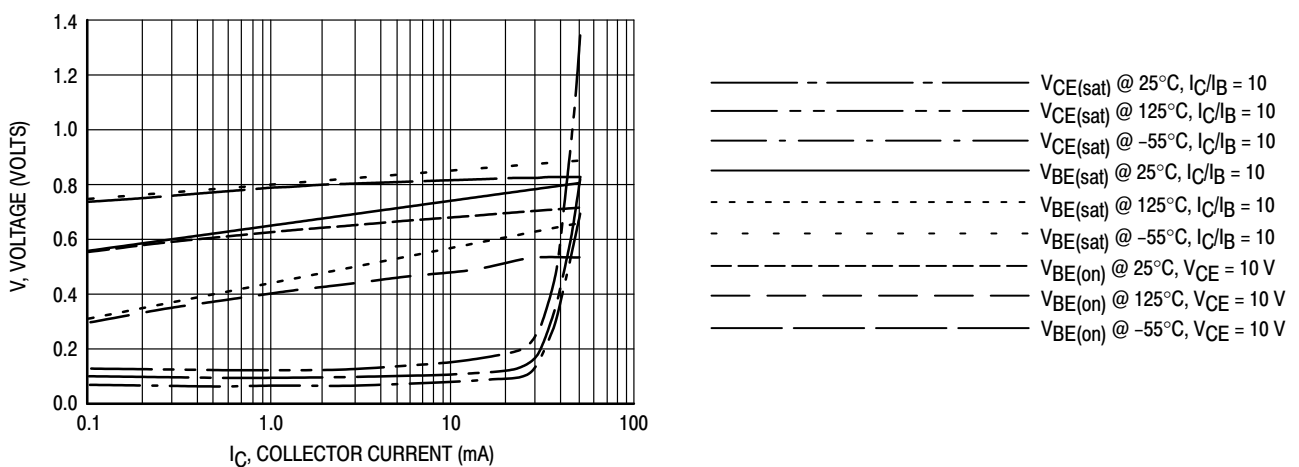


Figure 4. "ON" Voltages

Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

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