



Micro Commercial Components

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MMBTA92

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

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* ($I_C=-1.0mA$, $I_B=0$)	300		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=-100\mu A$, $I_E=0$)	300		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=-10\mu A$, $I_C=0$)	5		Vdc
I_C	Collector Current-Continuous	300		mAdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=-200V$, $I_E=0$)		250	nAdc
I_{EBO}	Emitter Cutoff Current ($V_{EB}=-3V$, $I_C=0$)		250	nAdc

ON CHARACTERISTICS

h_{FE}	DC Current Gain* ($I_C=-1.0mA$, $V_{CE}=-10V$) ($I_C=-10mA$, $V_{CE}=-10V$) ($I_C=-50mA$, $V_{CE}=-10V$)	25 100 25	200	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=-20mA$, $I_B=-2.0mA$)		0.5	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=-20mA$, $I_B=-2.0V$)		0.9	Vdc

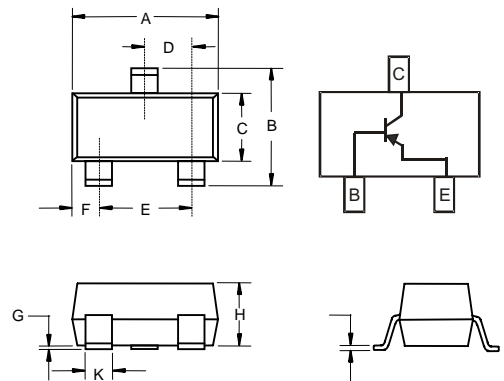
SMALL-SIGNAL CHARACTERISTICS

f_T	Current Gain-Bandwidth Product ($I_C=-10mA$, $V_{CE}=-5.0V$, $f=30MHz$)	50		MHz
C_{cb}	Collector-Base Capacitance ($V_{CB}=-20V$, $I_E=0$, $f=1.0MHz$)		6.0	pF

THERMAL CHARACTERISTICS

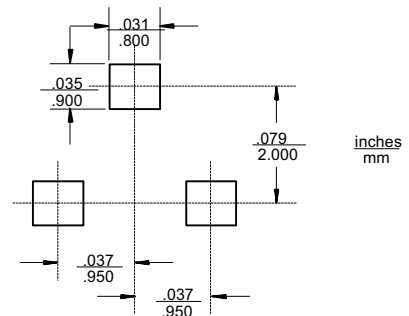
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, ⁽¹⁾ $T_A = 25^\circ C$ Derate above 25°C	P_D	225	mW
		1.8	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate, ⁽²⁾ $T_A = 25^\circ C$ Derate above 25°C	P_D	300	mW
		2.4	mW/°C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

SOT-23



DIM	DIMENSIONS				NOTE
	INCHES		MM		
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



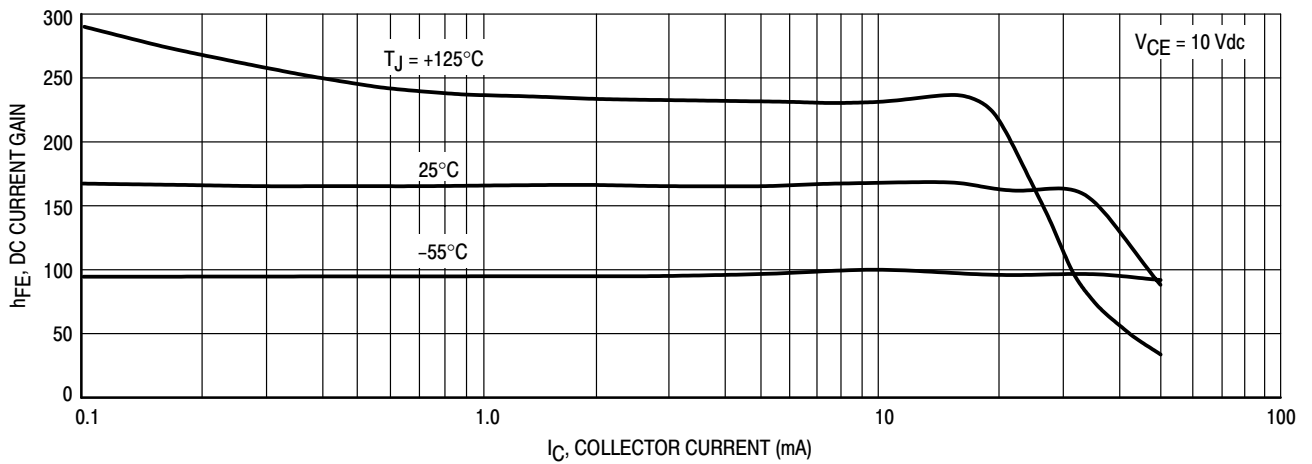


Figure 1. DC Current Gain

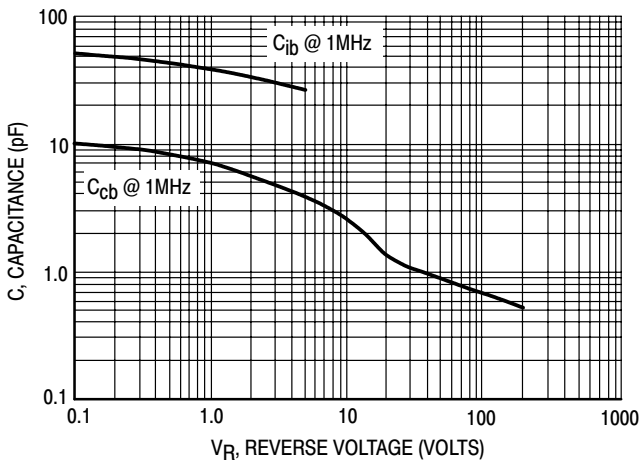


Figure 2. Capacitance

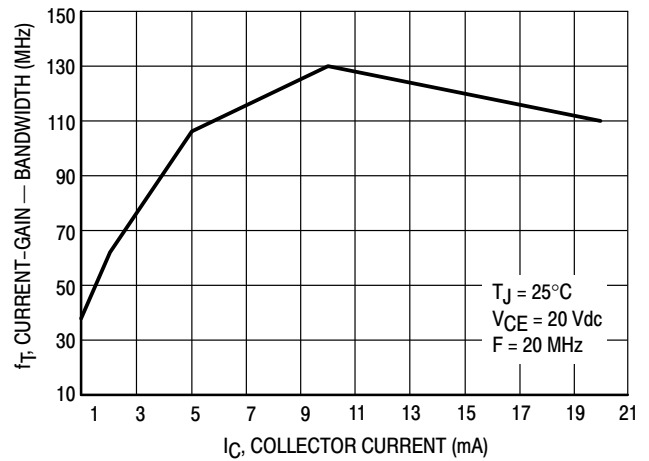


Figure 3. Current-Gain - Bandwidth

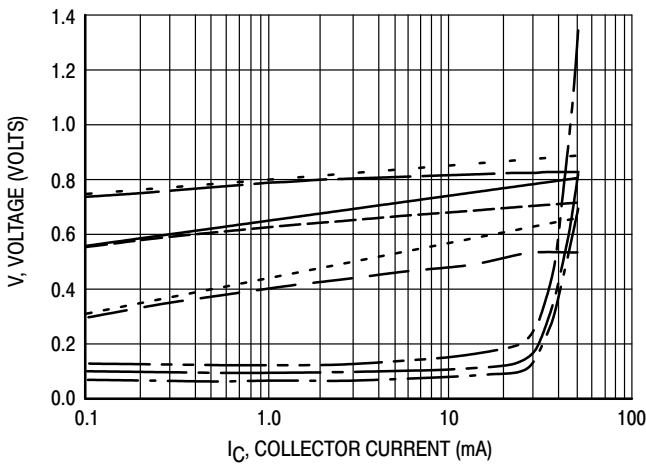


Figure 4. "ON" Voltages

- VCE(sat) @ 25°C, IC/IB = 10
- VCE(sat) @ 125°C, IC/IB = 10
- VCE(sat) @ -55°C, IC/IB = 10
- VBE(sat) @ 25°C, IC/IB = 10
- VBE(sat) @ 125°C, IC/IB = 10
- VBE(sat) @ -55°C, IC/IB = 10
- VBE(on) @ 25°C, VCE = 10 V
- VBE(on) @ 125°C, VCE = 10 V
- VBE(on) @ -55°C, VCE = 10 V



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Ordering Information

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

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