



Micro Commercial Components

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 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

# MPSA92

## Features

- Through Hole Package
- Operating & Storage Temperature: -55°C to +150°C
- Marking : A92
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

## PNP Silicon High Voltage Transistor

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
<b>OFF CHARACTERISTICS</b>				
$V_{(BR)CEO}$	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 ( $I_E = -10\mu\text{A}$ , $I_C = 0$ )	-5.0		Vdc
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB} = -3.0\text{V}$ , $I_C = 0$ )		-0.25	$\mu\text{A}$
$I_{CBO}$	Collector Cutoff Current ( $V_{CB} = -200\text{V}$ , $I_E = 0$ )		-0.25	$\mu\text{A}$

### ON CHARACTERISTICS

$h_{FE}$	DC Current Gain* ( $I_C = -1.0\text{mA}$ , $V_{CE} = -10\text{V}$ ) ( $I_C = -10\text{mA}$ , $V_{CE} = -10\text{V}$ ) ( $I_C = -50\text{mA}$ , $V_{CE} = -10\text{V}$ )	25 80 25	250	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C = -20\text{mA}$ , $I_B = -2.0\text{mA}$ )		-0.5	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

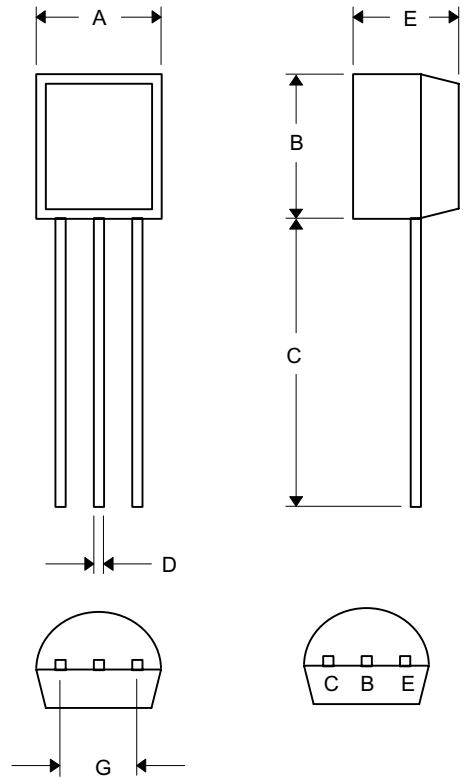
$f_T$	Current Gain-Bandwidth Product ( $I_C = -10\text{mA}$ , $V_{CE} = -5\text{V}$ , $f = 30\text{MHz}$ )	50		MHz
$C_{cb}$	Collector-Base Capacitance ( $V_{CB} = -20\text{V}$ , $I_E = 0$ , $f = 1.0\text{MHz}$ )		6.0	pF

\*Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

### MAXIMUM RATINGS

Symbol	Characteristic	MPSA92	Unit
$V_{CEO}$	Collector-Emitter Voltage	-300	Vdc
$V_{CBO}$	Collector-Base Voltage	-300	Vdc
$V_{EBO}$	Emitter-Base Voltage	-5.0	Vdc
$I_C$	Collector Current — Continuous	-300	mA
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	$^{\circ}\text{C}/\text{W}$
$P_D$	Total Device Dissipation @ $T_A = 25^{\circ}\text{C}$ Derate above $25^{\circ}\text{C}$	625 5.0	mW $\text{mW}/^{\circ}\text{C}$
$P_D$	Total Device Dissipation @ $T_C = 25^{\circ}\text{C}$ Derate above $25^{\circ}\text{C}$	1.5 12	Watts $\text{mW}/^{\circ}\text{C}$

### TO-92



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.170	.190	4.33	4.83	
B	.170	.190	4.30	4.83	
C	.550	.590	13.97	14.97	
D	.010	.020	0.36	0.56	
E	.130	.160	3.30	3.96	
G	.010	.104	2.44	2.64	

[www.mccsemi.com](http://www.mccsemi.com)

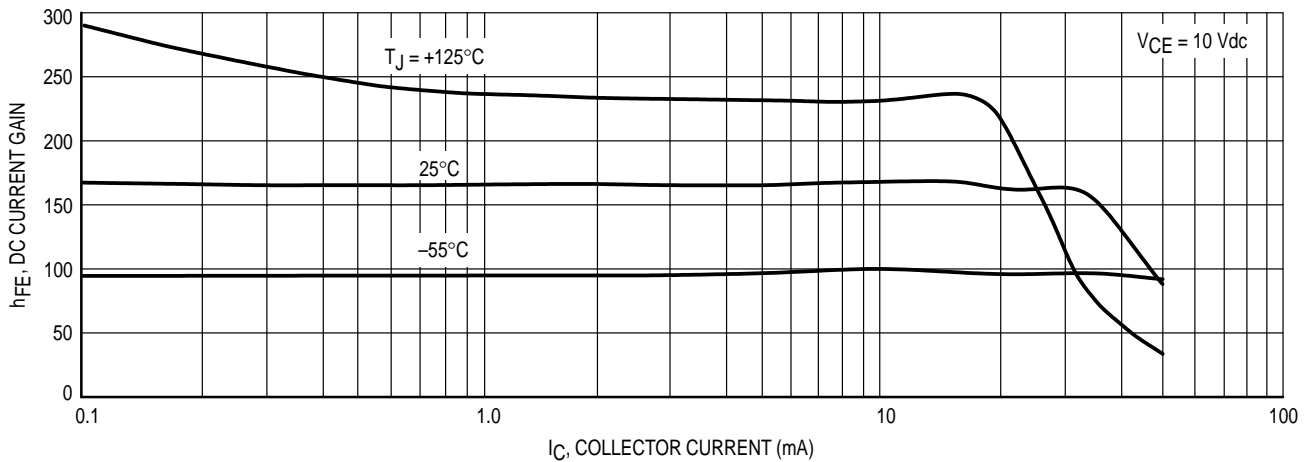


Figure 1. DC Current Gain

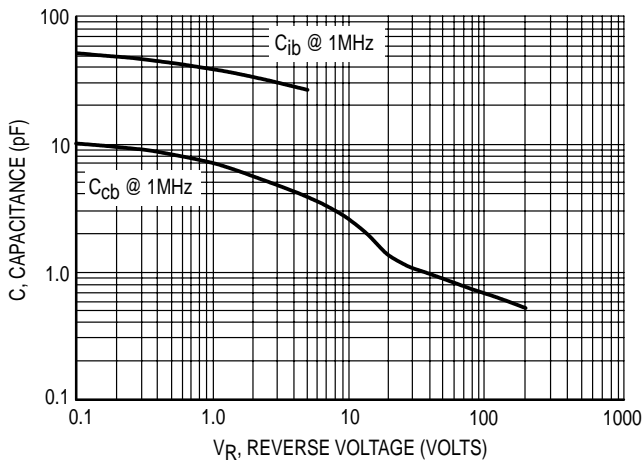


Figure 2. Capacitance

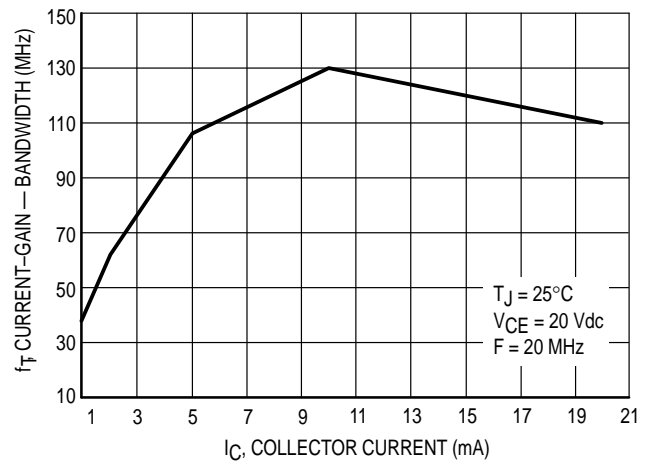


Figure 3. Current-Gain — Bandwidth

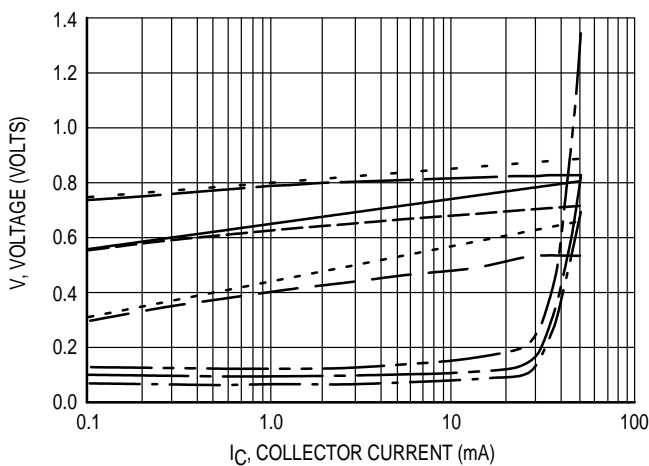


Figure 4. "ON" Voltages

- 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)-AP	Tape&Reel;2Kpcs/Box
(Part Number)-BP	Bulk;1Kpcs/Bag

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