



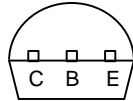
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# MPSA92

## Features

- Through Hole Package
- Operating & Storage Temperature: -55°C to +150°C
- Marking Code: A92

Pin Configuration  
 Bottom View



## 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-Emmitter 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
$V_{(BR)EBO}$	Emmitter -Base Breakdown Voltage ( $I_E = -10\mu\text{A}$ , $I_C = 0$ )	-5.0		Vdc
$I_{EBO}$	Emmitter Cutoff Current ( $V_{EB} = -3.0\text{Vdc}$ , $I_C = 0$ )		-0.25	$\mu\text{A}$ dc
$I_{CBO}$	Collector Cutoff Current ( $V_{CB} = -200\text{Vdc}$ , $I_E = 0$ )		-0.25	$\mu\text{A}$ dc

### ON CHARACTERISTICS

$h_{FE}$	DC Current Gain* ( $I_C = -1.0\text{mA}$ , $V_{CE} = -10\text{Vdc}$ ) ( $I_C = -10\text{mA}$ , $V_{CE} = -10\text{Vdc}$ ) ( $I_C = -50\text{mA}$ , $V_{CE} = -10\text{Vdc}$ )	25 80 25	250	
$V_{CE(sat)}$	Collector-Emmitter Saturation Voltage ( $I_C = -20\text{mA}$ , $I_B = -2.0\text{mA}$ )		-0.5	Vdc
$V_{BE(sat)}$	Base-Emmitter Saturation Voltage ( $I_C = -20\text{mA}$ , $I_B = -2.0\text{mA}$ )		-0.9	Vdc

### SMALL-SIGNAL CHARACTERISTICS

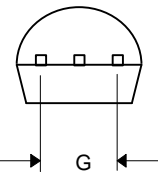
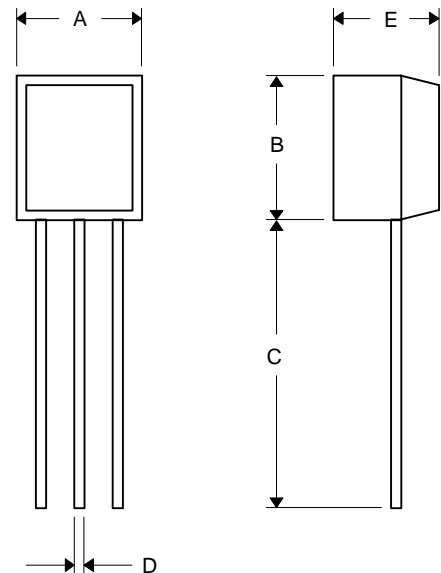
$f_T$	Current Gain-Bandwidth Product ( $I_C = -10\text{mA}$ , $V_{CE} = -5\text{Vdc}$ , $f = 30\text{MHz}$ )	50		MHz
$C_{cb}$	Collector -Base Capacitance ( $V_{CB} = -20\text{Vdc}$ , $I_E = 0$ , $f = 1.0\text{MHz}$ )		6.0	pF

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

### MAXIMUM RATINGS

Symbol	Characteristic	MPSA92	Unit
$V_{CEO}$	Collector - Emmitter Voltage	-300	Vdc
$V_{CBO}$	Collector - Base Voltage	-300	Vdc
$V_{EBO}$	Emmitter - Base Voltage	-5.0	Vdc
$I_C$	Collector Current - Continuous	-300	mA dc
$R_{\theta JA}$	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	.175	.185	4.45	4.70	
B	.175	.185	4.46	4.70	
C	.500	---	12.7	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	

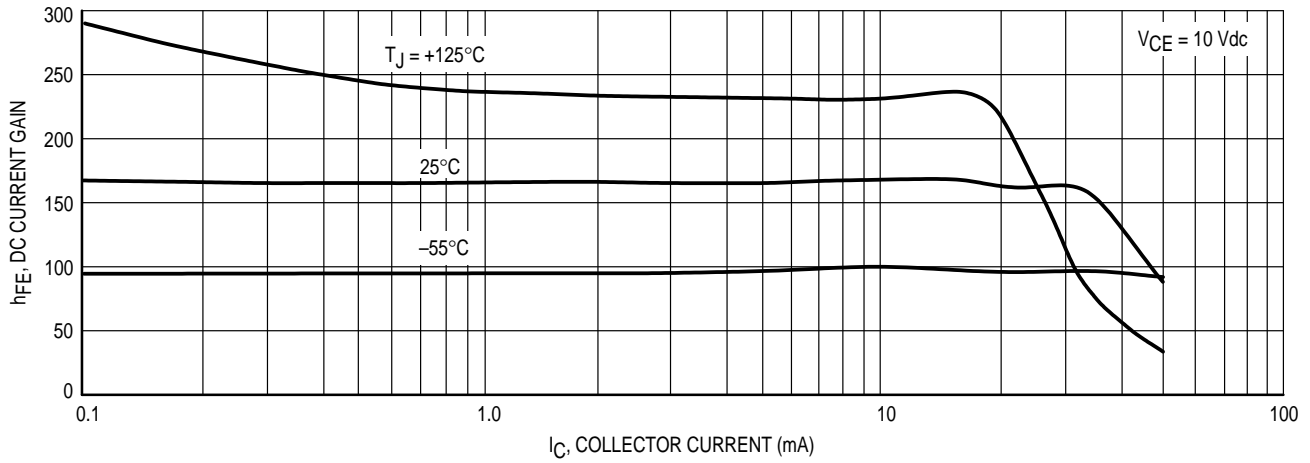


Figure 1. DC Current Gain

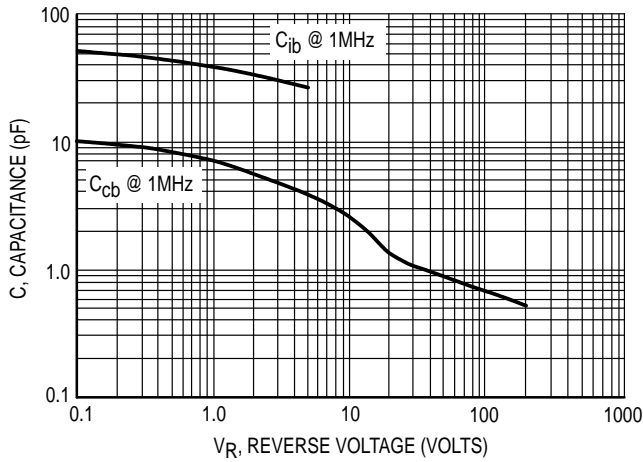


Figure 2. Capacitance

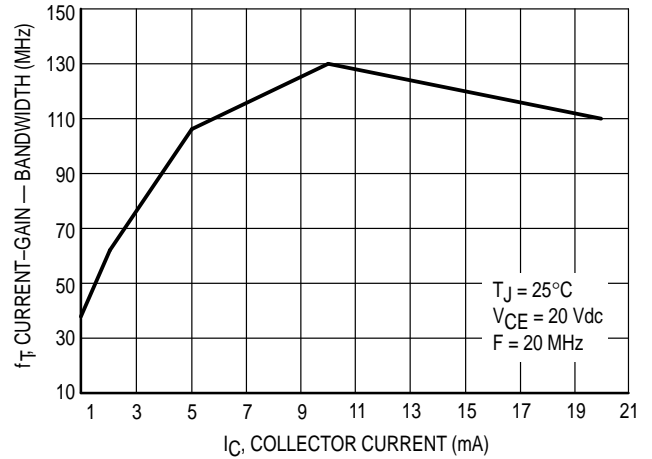


Figure 3. Current-Gain — Bandwidth

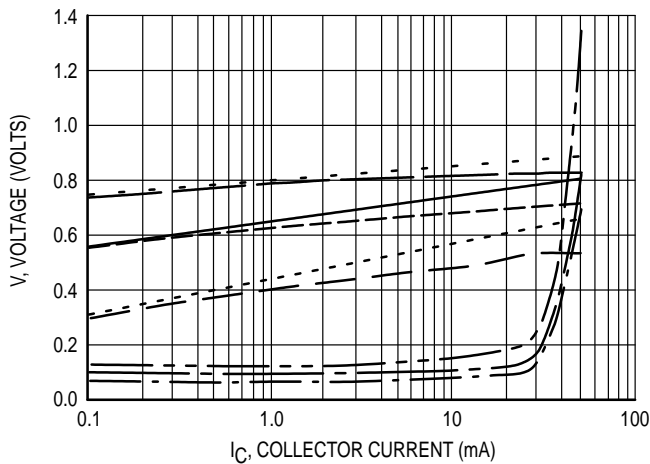


Figure 4. "ON" Voltages

- $V_{CE(sat)}$  @ 25°C,  $I_C/I_B = 10$
- $V_{CE(sat)}$  @ 125°C,  $I_C/I_B = 10$
- $V_{CE(sat)}$  @ -55°C,  $I_C/I_B = 10$
- $V_{BE(sat)}$  @ 25°C,  $I_C/I_B = 10$
- $V_{BE(sat)}$  @ 125°C,  $I_C/I_B = 10$
- $V_{BE(sat)}$  @ -55°C,  $I_C/I_B = 10$
- $V_{BE(on)}$  @ 25°C,  $V_{CE} = 10$  V
- $V_{BE(on)}$  @ 125°C,  $V_{CE} = 10$  V
- $V_{BE(on)}$  @ -55°C,  $V_{CE} = 10$  V