

# SOT223 PNP SILICON PLANAR HIGH GAIN MEDIUM POWER TRANSISTOR

## FZT792A

ISSUE 3 - NOVEMBER 1995

### FEATURES

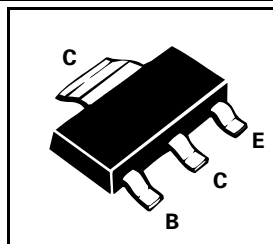
- \* High gain and Very low saturation voltage

### APPLICATIONS

- \* Battery powered circuits

COMPLEMENTARY TYPE - FZT692B

PARTMARKING DETAIL - FZT792A



### ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-75	V
Collector-Emitter Voltage	$V_{CEO}$	-70	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-5	A
Continuous Collector Current	$I_C$	-2	A
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	2	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ )

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	-75	-100		V	$I_C = -100\mu A$
	$V_{(BR)CEO}$	-70	-90		V	$I_C = -10mA^*$
	$V_{(BR)EBO}$	-5	-8.5		V	$I_E = -100\mu A$
Cut-Off Currents	$I_{CBO}$			-0.1 -10	$\mu A$	$V_{CB} = -40V$ $V_{CB} = -40V$ , $T_{amb} = 100^{\circ}C$
	$I_{EBO}$			-0.1	$\mu A$	$V_{EB} = -4V$
Saturation Voltages	$V_{CE(sat)}$		-0.30	-0.45	V	$I_C = -500mA$ , $I_B = -5mA^*$
			-0.30	-0.50	V	$I_C = -1A$ , $I_B = -25mA^*$
			-0.30	-0.50	V	$I_C = -2A$ , $I_B = -200mA^*$
	$V_{BE(sat)}$		-0.80	-0.95	V	$I_C = -1A$ , $I_B = -25mA^*$

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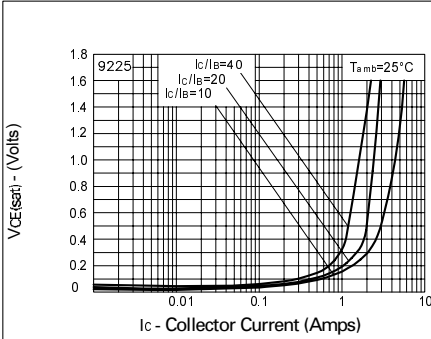
## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ )

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.75		V	$I_C = -1\text{A}, V_{CE} = -2\text{V}^*$
Static Forward Current Transfer	$h_{FE}$	300 250 200		800		$I_C = -10\text{mA}, V_{CE} = -2\text{V}^*$ $I_C = -500\text{mA}, V_{CE} = -2\text{V}^*$ $I_C = -1\text{A}, V_{CE} = -2\text{V}^*$
Transition Frequency	$f_T$	100	160		MHz	$I_C = -50\text{mA}, V_{CE} = -5\text{V}$ $f = 50\text{MHz}$
Input Capacitance	$C_{ibo}$		225		pF	$V_{EB} = 0.5\text{V}, f = 1\text{MHz}$
Output Capacitance	$C_{obo}$		22		pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$
Switching Times	$t_{on}$ $t_{off}$		35 750		ns ns	$I_C = -500\text{mA},$ $I_{B1} = -50\text{mA},$ $I_{B2} = -50\text{mA}, V_{CC} = -10\text{V}$

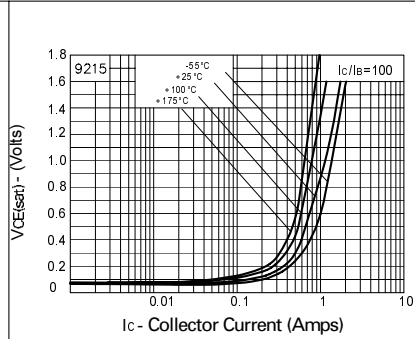
\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$   
Spice parameter data is available upon request for this device

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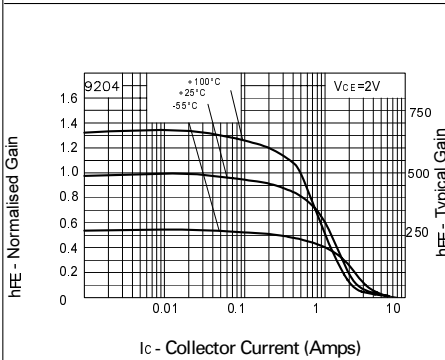
## TYPICAL CHARACTERISTICS



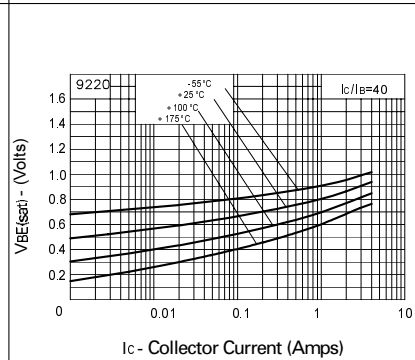
**VCE(sat) v IC**



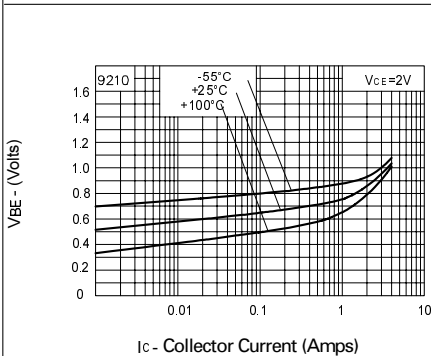
**VCE(sat) v IC**



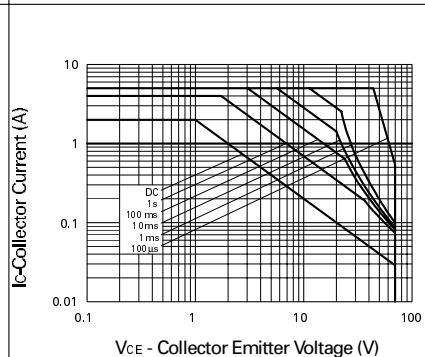
**hFE v IC**



**VBE(sat) v IC**



**VBE(on) v IC**



**Safe Operating Area**