

# SOT223 PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

## FZT795A

ISSUE 3 - OCTOBER 1995

### FEATURES

- \* 140 Volt  $V_{CEO}$
- \* Gain of 250 at  $I_C=0.2$  Amps and very low  $V_{CE(sat)}$

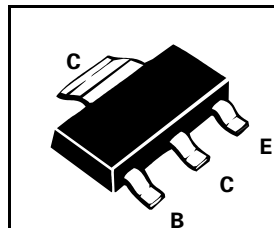
### APPLICATIONS

- \* Battery powered circuits

COMPLEMENTARY TYPE – FZT694B

PARTMARKING DETAIL – FZT795A

### ABSOLUTE MAXIMUM RATINGS.



PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-140	V
Collector-Emitter Voltage	$V_{CEO}$	-140	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-1	A
Continuous Collector Current	$I_C$	-500	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	2	W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 to +150	$^\circ\text{C}$

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

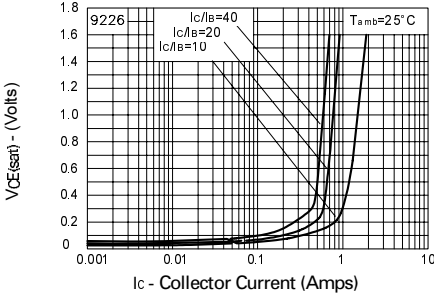
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	-140			V	$I_C=-100\mu\text{A}$
	$V_{(BR)CEO}$	-140			V	$I_C=-10\text{mA}^*$
	$V_{(BR)EBO}$	-5			V	$I_E=-100\mu\text{A}$
Cut-Off Currents	$I_{CBO}$			-0.1	$\mu\text{A}$	$V_{CB}=-100\text{V}$
	$I_{EBO}$			-0.1	$\mu\text{A}$	$V_{EB}=-4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.3 -0.3 -0.25	V V V	$I_C=-100\text{mA}, I_B=-1\text{mA}^*$ $I_C=-200\text{mA}, I_B=-5\text{mA}^*$ $I_C=-500\text{mA}, I_B=-50\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-0.95	V	$I_C=-500\text{mA}, I_B=-50\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.75		V	$I_C=-500\text{mA}, V_{CE}=-2\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	300 250 100		800		$I_C=-10\text{mA}, V_{CE}=-2\text{V}^*$ $I_C=-200\text{mA}, V_{CE}=-2\text{V}^*$ $I_C=-300\text{mA}, V_{CE}=-2\text{V}^*$
Transition Frequency	$f_T$	100			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	$C_{obo}$		15		pF	$V_{CB}=-10\text{V}, f=1\text{MHz}$
Switching Times	$t_{on}$		100		ns	$I_C=-100\text{mA}, I_{B1}=-10\text{mA}$
	$t_{off}$		1900		ns	$I_{B2}=-10\text{mA}, V_{CC}=-50\text{V}$

\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$

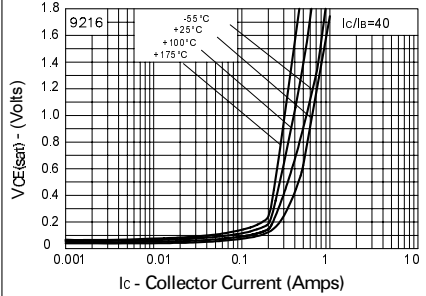
Spice parameter data is available upon request for this device

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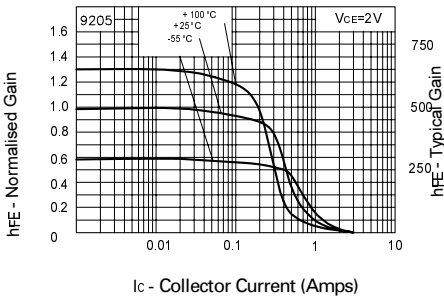
## TYPICAL CHARACTERISTICS



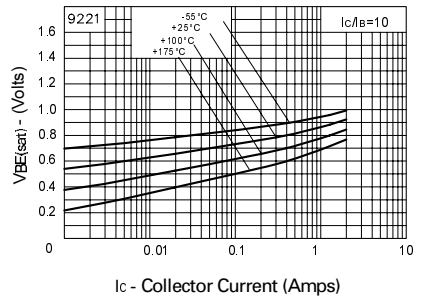
VCE(sat) v IC



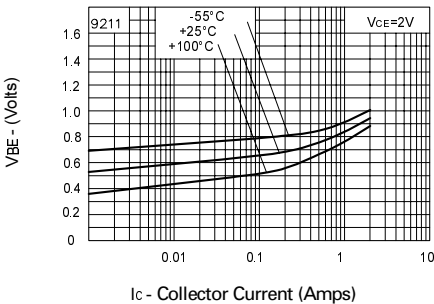
VCE(sat) v IC



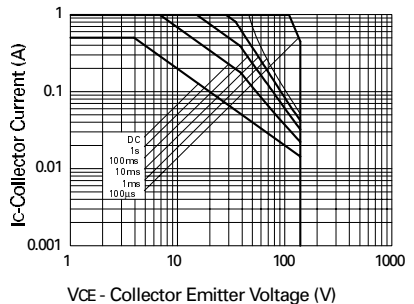
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area