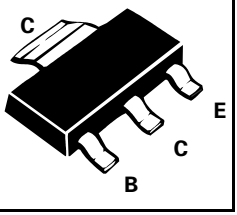
SOT223 PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

FZT790A

ISSUE 3 - OCTOBER 1995

FEATURES

* Very low equivalent on-resistance; **$R_{CE(sat)}$ 125mΩ at 2A**
* Gain of 200 at I_C=1 Amp and very low saturation voltage



APPLICATIONS

* DC-DC converters, Siren drivers.

COMPLEMENTARY TYPE - FZT690B

PARTMARKING DETAIL - FZT790A

ABSOLUTE MAXIMUM RATINGS.

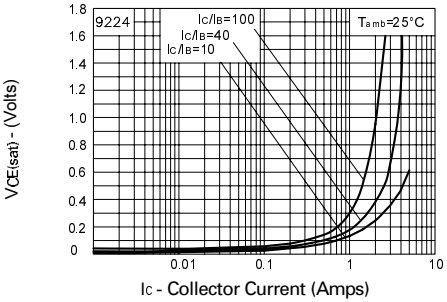
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Peak Pulse Current	I_{CM}	-6	A
Continuous Collector Current	I_C	-3	A
Power Dissipation at T_{amb}=25°C	P_{tot}	2	W
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C)

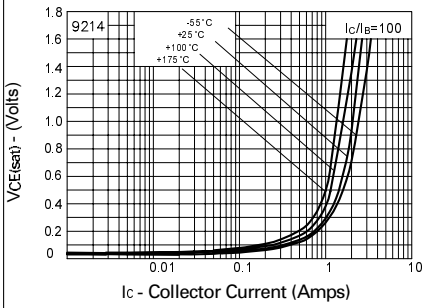
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	-50	-70		V	I_C=-100μA
	$V_{(BR)CEO}$	-40	-60		V	I_C=-10mA*
	$V_{(BR)EBO}$	-5	-8.5		V	I_E=-100μA
Collector Cut-Off Current	I_{CBO}			-0.1 -10	μA μA	V_{CB}=-30V V_{CB}=-30V,T_{amb}=100°C
Emitter Cut-Off Current	I_{EBO}			-0.1	μA	V_{EB}=-4V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.15 -0.30 -0.40	-0.25 -0.45 -0.75	V V V	I_C=-500mA, I_B=-5mA* I_C=-1A, I_B=-10mA* I_C=-2A, I_B=-50mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.8	-1.0	V	I_C=-1A, I_B=-10mA*
Base-EmitterTurn-OnVoltage	$V_{BE(on)}$		-0.75		V	I_C=-1A, V_{CE}=-2V*
Static Forward Current Transfer Ratio	h_{FE}	300 250 200 150		800		I_C=-10mA, V_{CE}=-2V I_C=-500mA, V_{CE}=-2V* I_C=-1A, V_{CE}=-2V* I_C=-2A, V_{CE}=-2V*
Transition Frequency	f_T	100			MHz	I_C=-50mA, V_{CE}=-5V f=50MHz
Output Capacitance	C_{obo}		24		pF	V_{CB}=-10V,f=1MHz
Switching Times	t_{on} t_{off}		35 600		ns ns	I_C=-500mA, I_{B1}=-50mA, I_{B2}=-50mA, V_{CC}=-10V

*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤2%
Spice parameter data is available upon request for this device

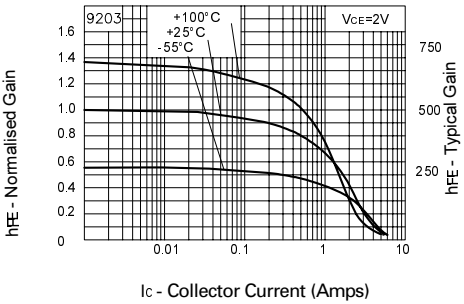
TYPICAL CHARACTERISTICS



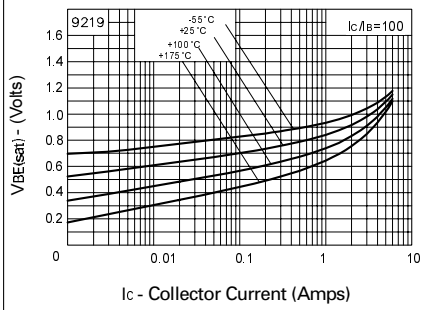
VCE(sat) v IC



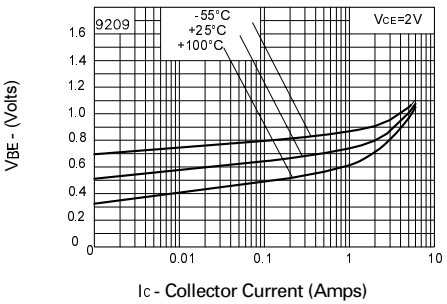
VCE(sat) v IC



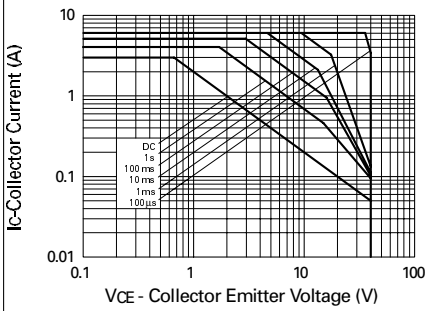
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area