SOT223 NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

FZT694B

ISSUE 3 - OCTOBER 1995

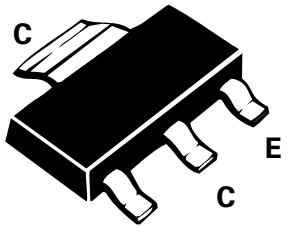
FEATURES

* High V_{CEO} / Very Low Saturation Voltage
* Gain of 400 at I_C=200mA

APPLICATIONS

* Darlington replacement
* Relay / solenoid driver

PARTMARKING DETAIL - FZT694B



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	120	V
Collector-Emitter Voltage	V_{CEO}	120	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	2	A
Continuous Collector Current	I_C	1	A
Power Dissipation 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	$V_{(BR)CBO}$	120			V	I_C=100μA
	$V_{(BR)CEO}$	120			V	I_C=10mA*
	$V_{(BR)EBO}$	5			V	I_E=100μA
Collector Cut-Off Current	I_{CBO}			0.1	μA	V_{CB}=100V
Emitter Cut-Off Current	I_{EBO}			0.1	μA	V_{EB}=4V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.25 0.5	V V	I_C=100mA, I_B=0.5mA* I_C=400mA, I_B=5mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			0.9	V	I_C=1A, I_B=10mA*
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			0.9	V	I_C=1A, V_{CE}=2V*
Static Forward Current Transfer Ratio	h_{FE}	500 400 150				I_C=100mA, V_{CE}=2V* I_C=200mA, V_{CE}=2V* I_C=400mA, V_{CE}=2V*
Transition Frequency	f_T	130			MHz	I_C=50mA, V_{CE}=5V f=50MHz
Input Capacitance	C_{ibo}		200		pF	V_{EB}=0.5V, f=1MHz
Output Capacitance	C_{obo}		9		pF	V_{CB}=10V, f=1MHz
Switching Times	t_{on} t_{off}		80 2900		ns ns	I_C=100mA, $I_{B!}$=10mA I_{B2}=10mA, V_{CC}=50V

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

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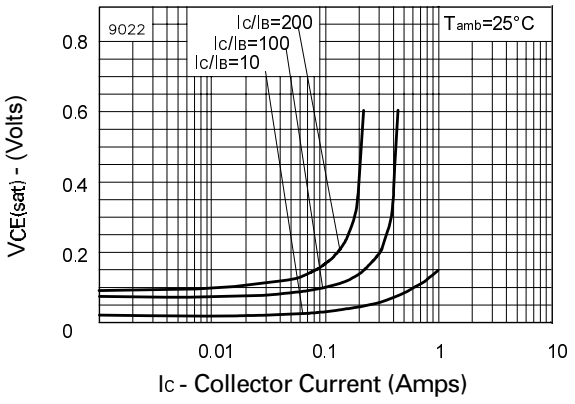
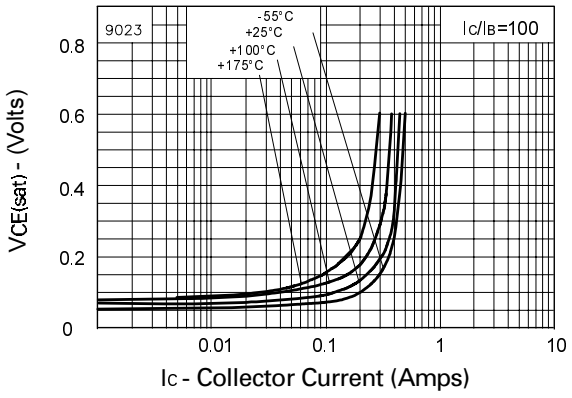
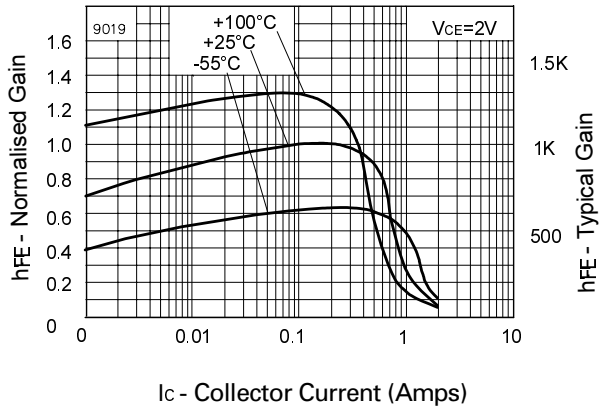
TYPICAL CHARACTERISTICS



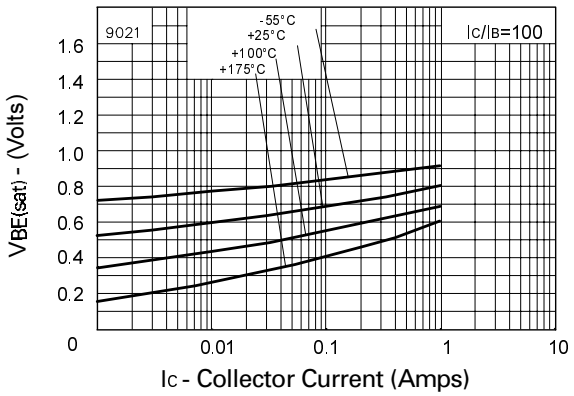
VCE(sat) v IC



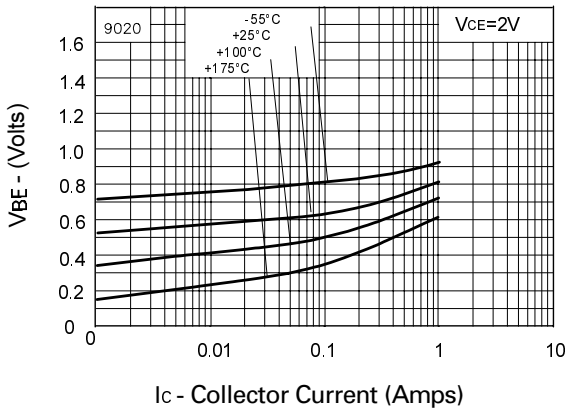
VCE(sat) v IC



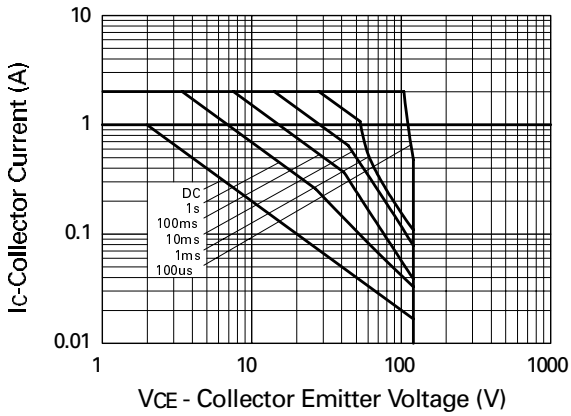
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area