

SOT223 NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

FZT694B

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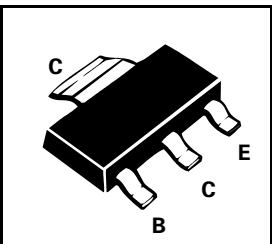
FEATURES

- * High V_{CE0} / 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 $T_{amb}=25^{\circ}C$	P_{tot}	2	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

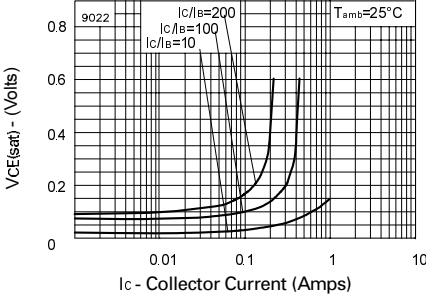
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	120			V	$I_C=100\mu A$
	$V_{(BR)CEO}$	120			V	$I_C=10mA^*$
	$V_{(BR)EBO}$	5			V	$I_E=100\mu A$
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	V	$I_C=100mA, I_B=0.5mA^*$
				0.5	V	$I_C=400mA, I_B=5mA^*$
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				$I_C=100mA, V_{CE}=2V^*$
		400				$I_C=200mA, V_{CE}=2V^*$
		150				$I_C=400mA, V_{CE}=2V^*$
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		ns	$I_C=100mA, I_B=10mA$
			2900		ns	$I_B=10mA, V_{CE}=50V$

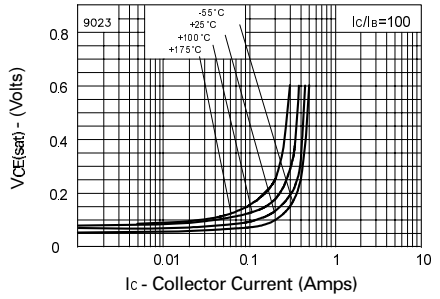
*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$
Spice parameter data is available upon request for this device

FZT694B

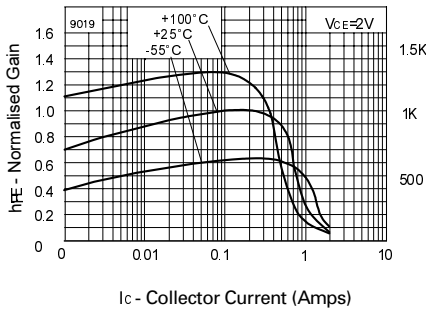
TYPICAL CHARACTERISTICS



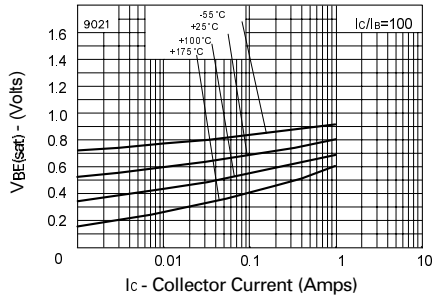
$V_{CE(sat)}$ v I_C



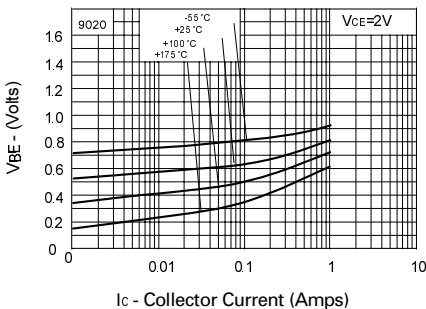
$V_{CE(sat)}$ v I_C



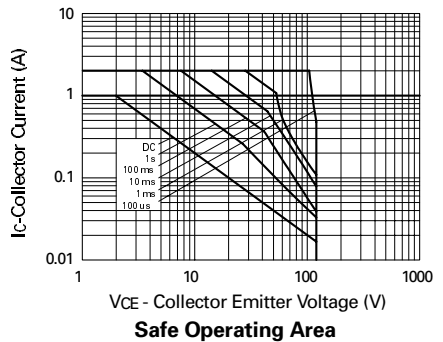
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area