SOT223 NPN SILICON PLANAR HIGH PERFORMANCE TRANSISTOR

FZT653

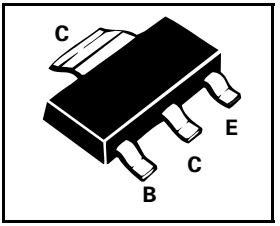
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FEATURES

* Low saturation voltage

COMPLEMENTARY TYPE – FZT753

PARTMARKING DETAIL – FZT653



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	120	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	6	A
Continuous Collector Current	I_C	2	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

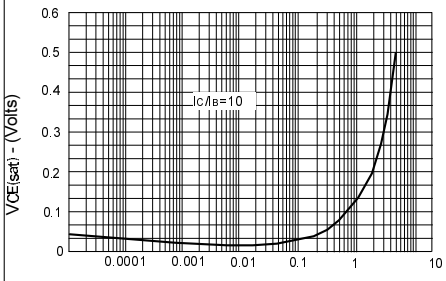
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	120			V	I_C=100μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	100			V	I_C=10mA*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	I_E=100μA
Collector Cut-Off Current	I_{CBO}			0.1 10	μA μA	V_{CB}=100V V_{CB}=100V,T_{amb}=100°C
Emitter Cut-Off Current	I_{EBO}			0.1	μA	V_{EB}=4V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.13 0.23	0.3 0.5	V V	I_C=1A, I_B=100mA* I_C=2A, I_B=200mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.9	1.25	V	I_C=1A, I_B=100mA*
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.8	1.0	V	I_C=1A, V_{CE}=2V*
Static Forward Current Transfer Ratio	h_{FE}	70 100 55 25	200 200 110 55	300		I_C=50mA, 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	140	175		MHz	I_C=100mA, V_{CE}=5V f=100MHz
Output Capacitance	C_{obo}			30	pF	V_{CB}=10V, f=1MHz
Switching Times	t_{on}		80		ns	I_C=500mA, V_{CC}=10V I_{B1}=I_{B2}=50mA
	t_{off}		1200		ns	

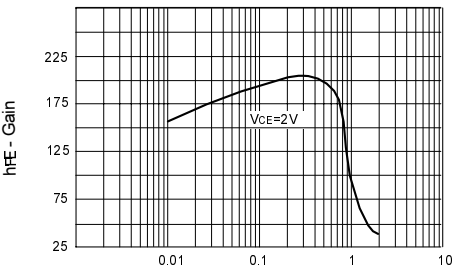
*Measured under pulsed conditions. Pulse Width=300μs. Duty cycle ≤2%
Spice parameter data is available upon request for this device

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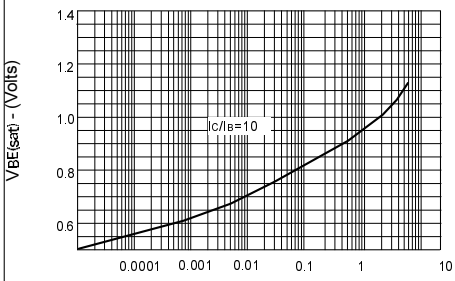
TYPICAL CHARACTERISTICS



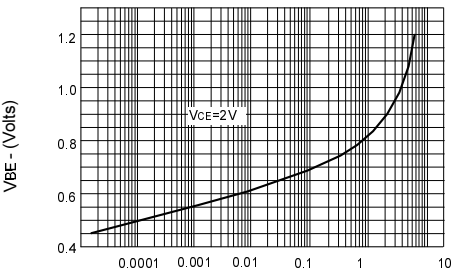
VCE(sat) v IC



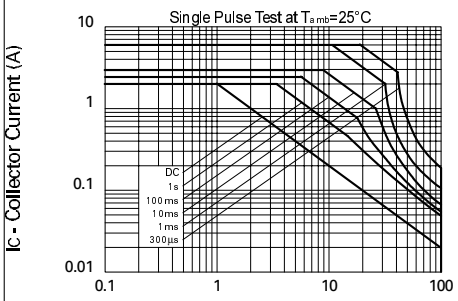
hFE v IC



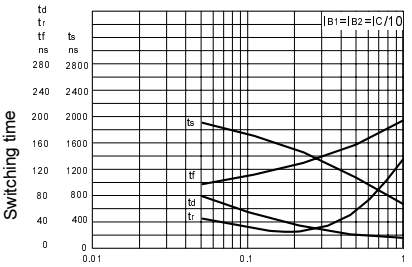
VBE(sat) v IC



VBE(on) v IC



Safe Operating Area



Switching Speeds