

SOT223 NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

ISSUE 4 - OCTOBER 1995

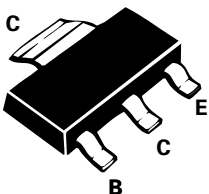
FEATURES

- * 400 Volt V_{CE0}
- * Low saturation voltage

COMPLEMENTARY TYPE - FZT758

PARTMARKING DETAIL - FZT658

FZT658



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	400	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	1	A
Continuous Collector Current	I_C	0.5	A
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	2	W
Operating and Storage Temperature Range	$T_j: T_{stg}$	-55 to +150	$^{\circ}C$

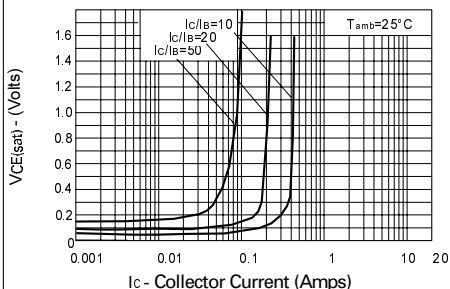
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Breakdown Voltage	$V_{(BR)CBO}$	400		V	$I_C=100\mu A$
	$V_{(BR)CEO}$	400		V	$I_C=10mA^*$
	$V_{(BR)EBO}$	5		V	$I_E=100\mu A$
Collector Cut-Off Current	I_{CBO}		100	nA	$V_{CB}=320V$
Emitter Cut-Off Current	I_{EBO}		100	nA	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.3	V	$I_C=20mA, I_B=1mA^*$
			0.25	V	$I_C=50mA, I_B=5mA^*$
			0.5	V	$I_C=100mA, I_B=10mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.9	V	$I_C=100mA, I_B=10mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.0	V	$I_C=100mA, V_{CE}=5V^*$
Static Forward Current Transfer Ratio	h_{FE}	50			$I_C=1mA, V_{CE}=5V^*$
		50			$I_C=100mA, V_{CE}=5V^*$
		40			$I_C=200mA, V_{CE}=10V^*$
Transition Frequency	f_T	50		MHz	$I_C=10mA, V_{CE}=20V$ $f=20MHz$
Output Capacitance	C_{obo}		10	pF	$V_{CB}=20V, f=1MHz$
Switching Times	t_{on}		130	ns	$I_C=100mA, V_{CC}=100V$
	t_{off}		3300	ns	$I_{B1}=10mA, I_{B2}=20mA$

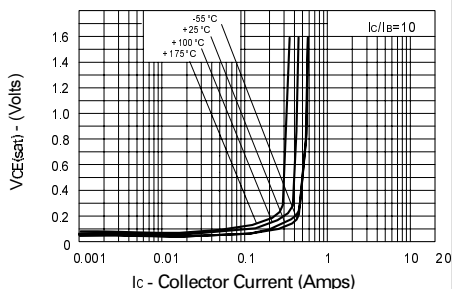
*Measured under pulsed conditions. Pulse Width=300 μs . Duty cycle $\leq 2\%$
Spice parameter data is available upon request for this device

FZT658

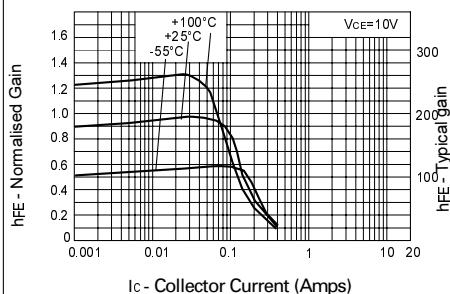
TYPICAL CHARACTERISTICS



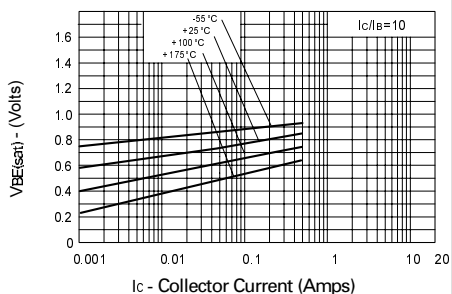
$V_{CE(sat)}$ v I_C



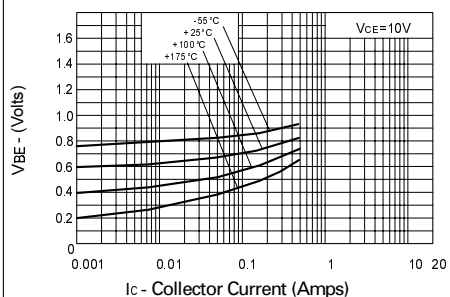
$V_{CE(sat)}$ v I_C



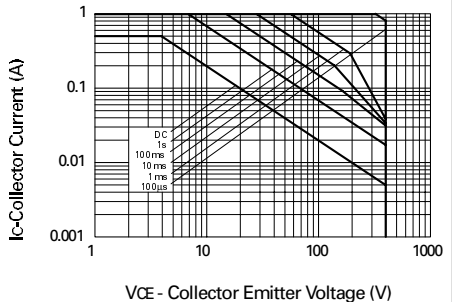
hFE v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area