



FZT651

**SOT223 NPN SILICON PLANAR
HIGH PERFORMANCE TRANSISTORS**

FZT651

ISSUE 2 – FEBRUARY 1995

FEATURES

- * 60 Volt V_{CE0}
- * 3 Amp continuous current
- * Low saturation voltage

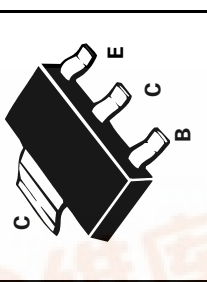
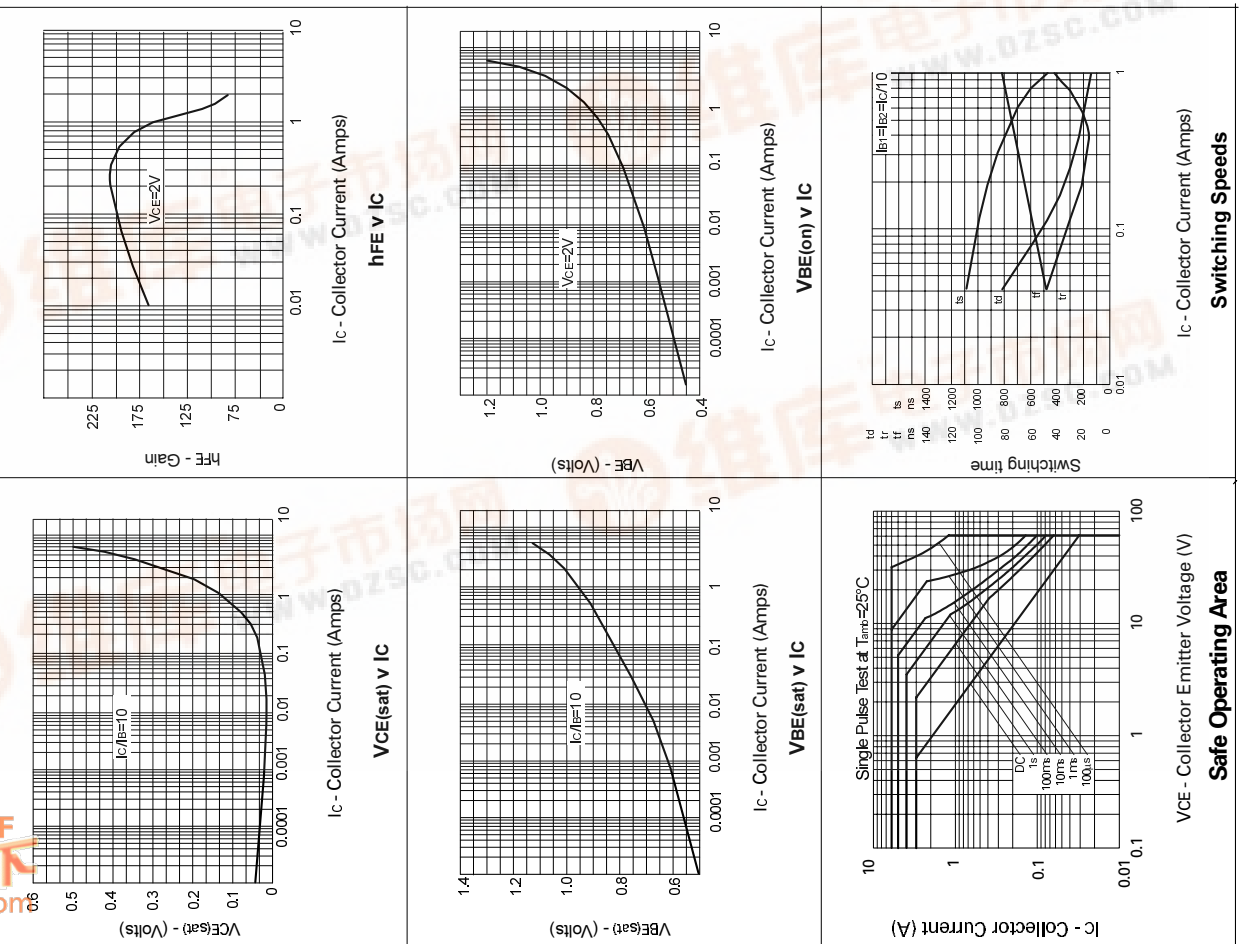
COMPLEMENTARY TYPE – FZT751

PARTMARKING DETAIL – FZT651

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	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 $T_{amb}=25^{\circ}C$	P_{tot}	2	W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +150	$^{\circ}C$

TYPICAL CHARACTERISTICS



查询FZT651供应商

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	80			V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	60			V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu A$
Collector Cut-Off Current	I_{CBO}			0.1	μA	$V_{CE}=60V, T_{amb}=100^{\circ}C$
Emitter Cut-Off Current	I_{EBO}			10	μA	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	0.12	0.43	0.6	V	$I_C=1A, I_B=100mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	0.9		1.25	V	$I_C=3A, I_B=300mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.8	1	V	$I_C=1A, I_B=100mA^*$
Static Forward Current Transfer Ratio	h_{FE}	70	200	300		$I_C=50mA, V_{CE}=2V^*$
Transition Frequency	f_T	100	200		MHz	$I_C=500mA, V_{CE}=2V^*$
		80	170			$I_C=1A, V_{CE}=2V^*$
		40	80			$I_C=2A, V_{CE}=2V^*$
Switching Times	t_{on}	140	175		ns	$I_C=100mA, V_{CE}=5V$
						$f=100MHz$
Switching Times	t_{off}	45	800		ns	$I_C=500mA, V_{CC}=10V$
						$I_B=I_{B2}=50mA$
Output Capacitance	C_{obo}			30	pF	$V_{CB}=10V, f=1MHz$

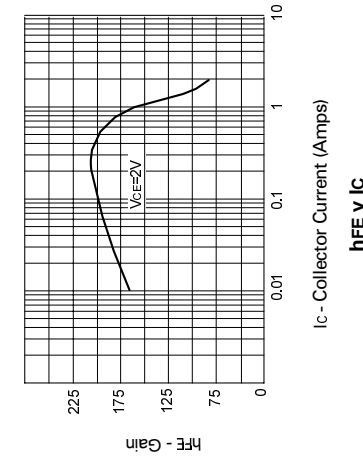
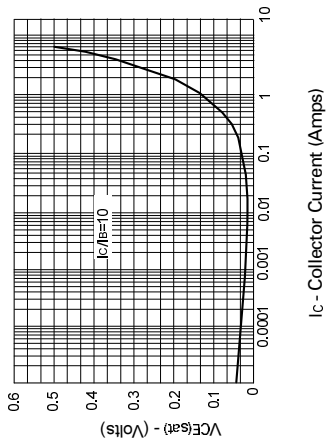
*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$
Spice parameter data is available upon request for this device

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FEATURES

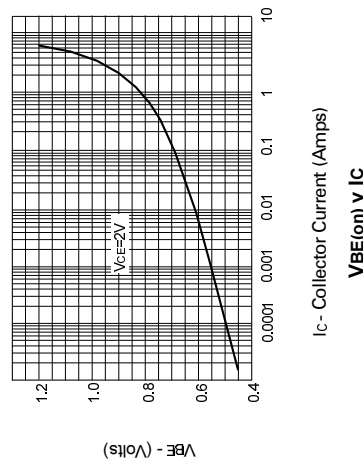
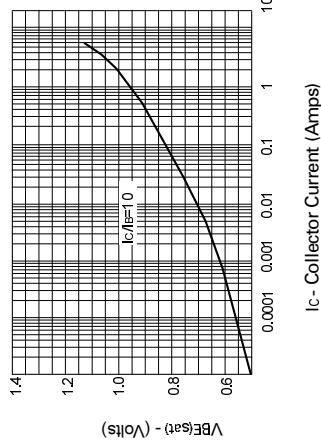
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- * Low saturation voltage

TYPICAL CHARACTERISTICS



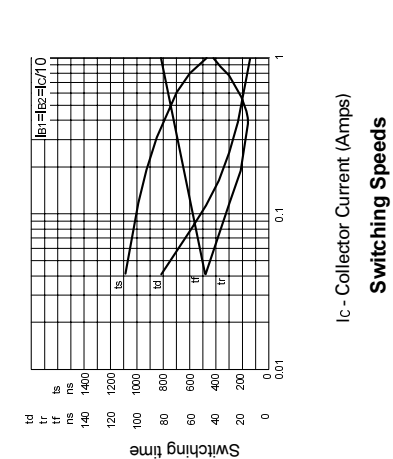
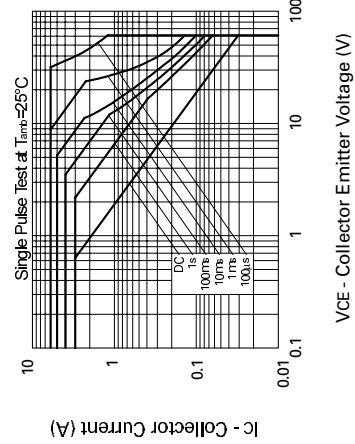
$V_{CE(sat)}$ v I_C

hFE v I_C



$V_{BE(sat)}$ v I_C

$V_{BE(on)}$ v I_C



Safe Operating Area

Switching Speeds

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Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +150	$^\circ C$

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Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E = 100\mu A$
Collector Cut-Off Current	I_{CBO}			0.1	μA	$V_{CE} = 60V$
Emitter Cut-Off Current	I_{EBO}			10	μA	$V_{CB} = 60V, T_{amb} = 100^\circ C$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	0.12	0.43	0.6	V	$V_{EB} = 4V$
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	V	$I_C = 1A, V_{CE} = 2V^*$
Static Forward Current Transfer Ratio	h_{FE}	70	200	300		$I_C = 50mA, V_{CE} = 2V^*$
		100	200			$I_C = 500mA, V_{CE} = 2V^*$
		80	170			$I_C = 1A, V_{CE} = 2V^*$
		40	80			$I_C = 2A, V_{CE} = 2V^*$
Transition Frequency	f_T	140	175		MHz	$I_C = 100mA, V_{CE} = 5V$ $f_c = 100MHz$
Switching Times	t_{on}		45		ns	$I_C = 500mA, V_{CC} = 10V$
	t_{off}		800		ns	$I_B = I_B = 50mA$
Output Capacitance	C_{obo}			30	pF	$V_{CB} = 10V, f = 1MHz$

*Measured under pulsed conditions. Pulse width=300µs. Duty cycle ≤ 2%
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