

SOT223 PNP SILICON PLANAR HIGH CURRENT (HIGH PERFORMANCE) TRANSISTORS

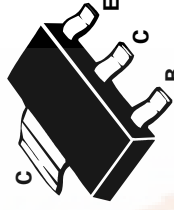
**FZT955
FZT956**

ISSUE 2 – OCTOBER 1995

FEATURES

- * 4 Amps continuous current (10 Amps peak current)
- * Very low saturation voltages
- * Excellent gain characteristics specified up to 3 Amps

PARTMARKING DETAILS – DEVICE TYPE IN FULL
COMPLEMENTARY TYPES – FZT955 - FZT855
FZT956 - N/A



[查询FZT955供应商](#)

[捷多邦, 专业PCB打样工厂, 24小时加急出货](#)

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	FZT955	FZT956	UNIT
Collector-Base Voltage	V_{CB0}	-180	-220	V
Collector-Emitter Voltage	V_{CE0}	-140	-200	V
Emitter-Base Voltage	V_{EBO}	-6		V
Peak Pulse Current	I_{CM}	-10	-5	A
Continuous Collector Current	I_C	-4	-2	A
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	3		W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +150		$^{\circ}C$

*The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 4 square inch minimum



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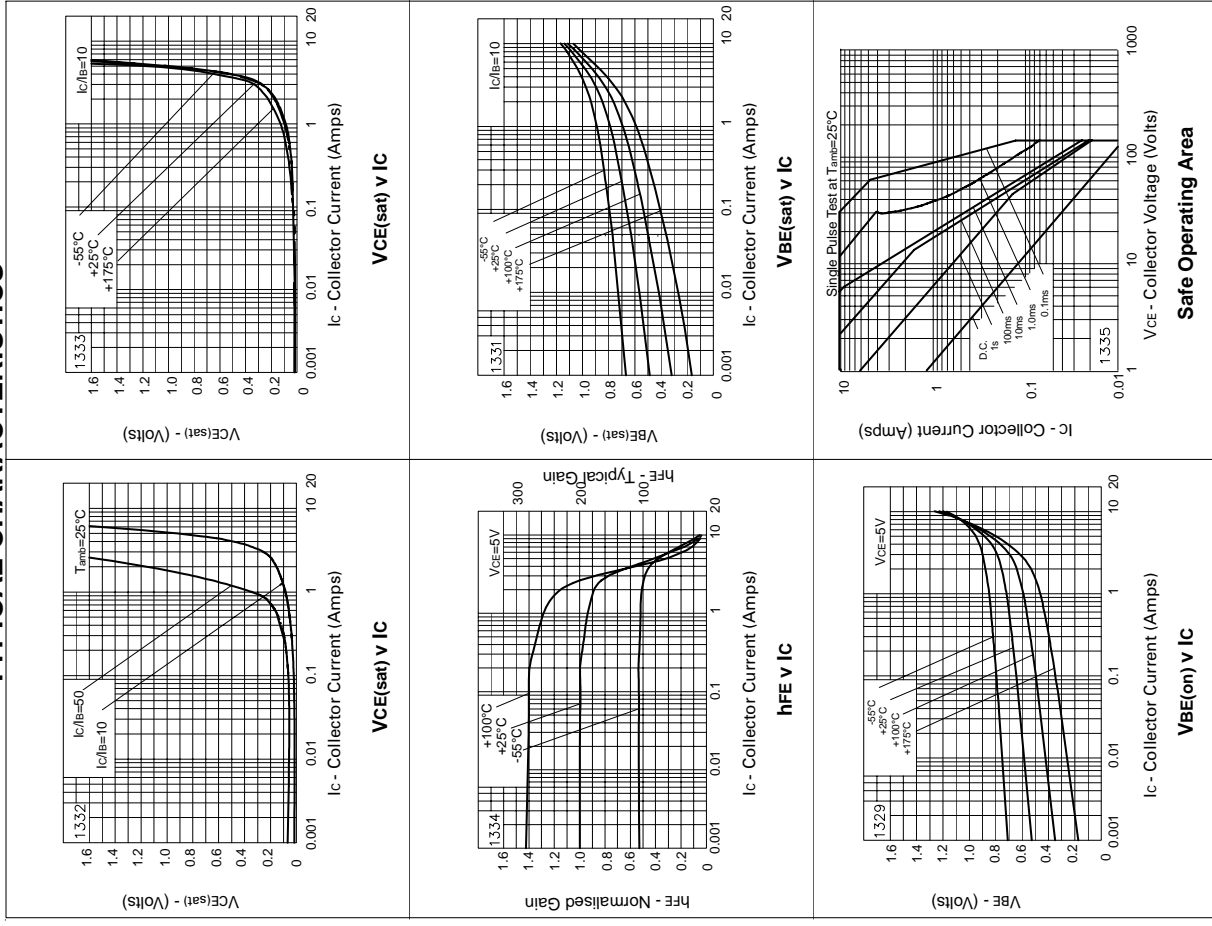
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ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-180	-210		V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	-180	-210		V	$I_C = -1\mu\text{A}$, $R_B \leq 1\text{k}\Omega$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-140	-170		V	$I_C = -10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-6	-8		V	$I_E = -100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}			-50 -1	nA μA	$V_{CE} = -150\text{V}$ $V_{CE} = -150\text{V}$, $T_{amb} = 100^{\circ}\text{C}$
Collector Cut-Off Current	I_{CER} $R \leq 1\text{k}\Omega$			-50 -1	nA μA	$V_{CE} = -150\text{V}$ $V_{CE} = -150\text{V}$, $T_{amb} = 100^{\circ}\text{C}$
Emitter Cut-Off Current	I_{EBO}			-10	nA	$V_{EB} = -6\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-30 -70 -110 -275	-60 -120 -150 -370	mV	$I_C = -100\text{mA}$, $I_B = -5\text{mA}^*$ $I_C = -500\text{mA}$, $I_B = -50\text{mA}^*$ $I_C = -1\text{A}$, $I_B = -100\text{mA}^*$ $I_C = -3\text{A}$, $I_B = -300\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-970	-1110	mV	$I_C = -3\text{A}$, $I_B = -300\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-830	-950	mV	$I_C = -3\text{A}$, $V_{CE} = -5\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	100 100 75	200 200 140	300		$I_C = -10\text{mA}$, $V_{CE} = -5\text{V}^*$ $I_C = -1\text{A}$, $V_{CE} = -5\text{V}^*$ $I_C = -3\text{A}$, $V_{CE} = -5\text{V}^*$ $I_C = -10\text{A}$, $V_{CE} = -5\text{V}^*$
Transition Frequency	f_T		110		MHz	$I_C = -100\text{mA}$, $V_{CE} = -10\text{V}$ $f = 50\text{MHz}$
Output Capacitance	C_{obbo}		40		pF	$V_{CE} = -20\text{V}$, $f = 1\text{MHz}$
Switching Times	t_{on} t_{off}		68 1030		ns ns	$I_C = -1\text{A}$, $I_B = -100\text{mA}$ $I_B = 100\text{mA}$, $V_{CE} = -50\text{V}$

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

TYPICAL CHARACTERISTICS



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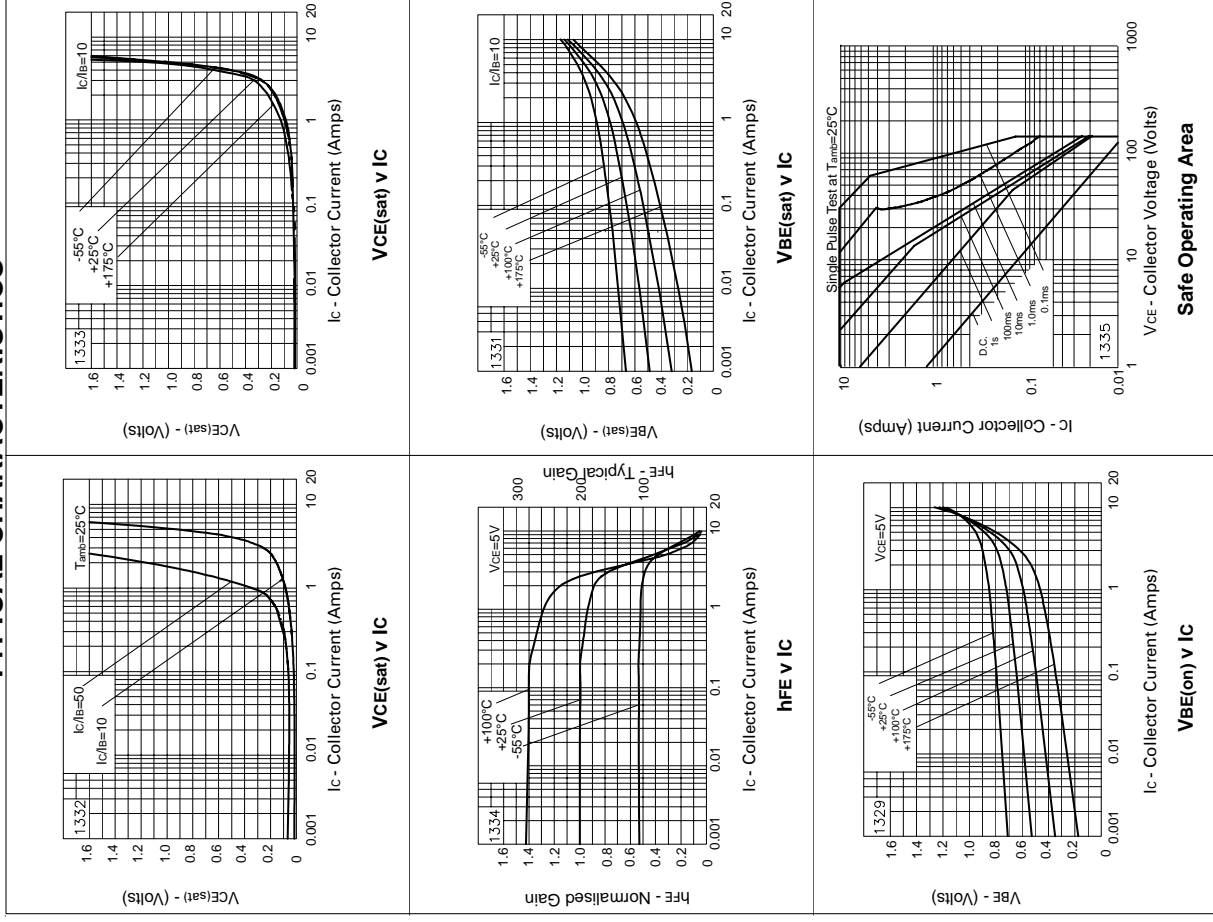
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ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-180	-210		V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	-180	-210		V	$I_C = -1\mu\text{A}$, $R_B \leq 1\text{k}\Omega$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-140	-170		V	$I_C = -10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-6	-8		V	$I_E = -100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}			-50 -1	nA μA	$V_{CE} = -150\text{V}$ $V_{CE} = -150\text{V}$, $T_{amb} = 100^{\circ}\text{C}$
Collector Cut-Off Current	I_{CER} $R \leq 1\text{k}\Omega$			-50 -1	nA μA	$V_{CE} = -150\text{V}$ $V_{CE} = -150\text{V}$, $T_{amb} = 100^{\circ}\text{C}$
Emitter Cut-Off Current	I_{EBO}			-10	nA	$V_{EB} = -6\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-30 -70 -110 -275	mV	$I_C = -100\text{mA}$, $I_B = -5\text{mA}^*$ $I_C = -500\text{mA}$, $I_B = -50\text{mA}^*$ $I_C = -1\text{A}$, $I_B = -100\text{mA}^*$ $I_C = -3\text{A}$, $I_B = -300\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-970	mV	$I_C = -3\text{A}$, $I_B = -300\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			-830	mV	$I_C = -3\text{A}$, $V_{CE} = -5\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	100 100 75	200 200 140	300		$I_C = -10\text{mA}$, $V_{CE} = -5\text{V}^*$ $I_C = -1\text{A}$, $V_{CE} = -5\text{V}^*$ $I_C = -3\text{A}$, $V_{CE} = -5\text{V}^*$ $I_C = -10\text{A}$, $V_{CE} = -5\text{V}^*$
Transition Frequency	f_T		110		MHz	$I_C = -100\text{mA}$, $V_{CE} = -10\text{V}$ $f = 50\text{MHz}$
Output Capacitance	C_{obbo}		40		pF	$V_{CE} = -20\text{V}$, $f = 1\text{MHz}$
Switching Times	t_{on} t_{off}		68 1030		ns ns	$I_C = -1\text{A}$, $I_B = -100\text{mA}$ $I_B = 100\text{mA}$, $V_{CE} = -50\text{V}$

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

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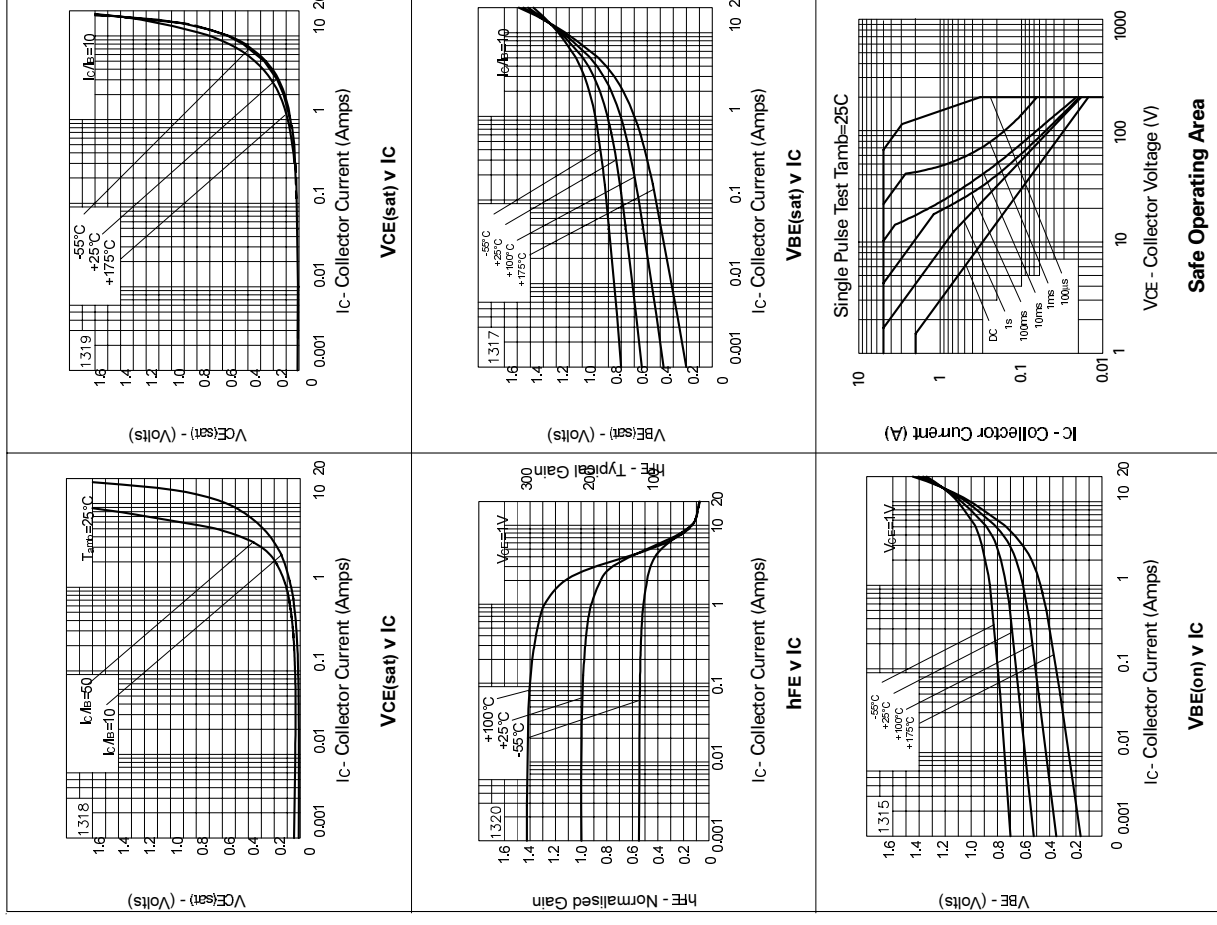
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ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-220	-300		V	I _C =-100μA
Collector-Emitter Breakdown Voltage	V _{(BR)CER}	-220	-300		V	I _C =-1μA, R _B ≤ 1kΩ
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-200	-240		V	I _C =-10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-6	-8		V	I _E =-100μA
Collector Cut-Off Current	I _{CBO}			-50 -1	nA μA	V _{CB} =-200V V _{CB} =-200V, T _{amb} =100°C
Collector Cut-Off Current	I _{CER}			-50 -1	nA μA	V _{CB} =-200V V _{CB} =-200V, T _{amb} =100°C
Emitter Cut-Off Current	I _{EBO}			-10	nA	V _{EB} =-6V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		-30 -120 -168	-50 -165 -275	mV	I _C =-100mA, I _B =-10mA* I _C =-1A, I _B =-100mA* I _C =-2A, I _B =-400mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		-970	-1110	mV	I _C =-2A, I _B =-400mA
Base-Emitter Turn-On Voltage	V _{BE(on)}		-810	-950	mV	I _C =-2A, V _{CE} =-5V*
Static Forward Current Transfer Ratio	h _{FE}	100 100 50	200 200 150 10	300		I _C =-10mA, V _{CE} =-5V* I _C =-1A, V _{CE} =-5V* I _C =-2A, V _{CE} =-5V* I _C =-5A, V _{CE} =-5V*
Transition Frequency	f _T		110		MHz	I _C =-100mA, V _{CE} =-10V f=50MHz
Output Capacitance	C _{obo}		32		pF	V _{CB} =-20V, f=1MHz
Switching Times	t _{on} t _{off}		67 1140		ns	I _C =-1A, I _{B1} =-100mA I _{B2} =-100mA, V _{CE} =-50V

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

TYPICAL CHARACTERISTICS



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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-220	-300		V	I _C = -100µA
Collector-Emitter Breakdown Voltage	V _{(BR)CER}	-220	-300		V	I _C = -1µA, R _B ≤ 1kΩ
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-200	-240		V	I _C = -10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-6	-8		V	I _E = -100µA
Collector Cut-Off Current	I _{CBO}			-50 -1	nA µA	V _{CB} = -200V V _{CB} = -200V, T _{amb} = 100°C
Collector Cut-Off Current	I _{CER}			-50 -1	nA µA	V _{CB} = -200V V _{CB} = -200V, T _{amb} = 100°C
Emitter Cut-Off Current	I _{EBO}			-10	nA	V _{EB} = -6V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		-30 -120 -168	-50 -165 -275	mV	I _C = -100mA, I _B = -10mA* I _C = -1A, I _B = -100mA* I _C = -2A, I _B = -400mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		-970	-1110	mV	I _C = -2A, I _B = -400mA
Base-Emitter Turn-On Voltage	V _{BE(on)}		-810	-950	mV	I _C = -2A, V _{CE} = -5V*
Static Forward Current Transfer Ratio	h _{FE}	100 100 50	200 200 150 10	300		I _C = -10mA, V _{CE} = -5V* I _C = -1A, V _{CE} = -5V* I _C = -2A, V _{CE} = -5V* I _C = -5A, V _{CE} = -5V*
Transition Frequency	f _T		110		MHz	I _C = -100mA, V _{CE} = -10V f = 50MHz
Output Capacitance	C _{obo}		32		pF	V _{CB} = -20V, f = 1MHz
Switching Times	t _{on} t _{off}		67 1140		ns	I _C = -1A, I _{B1} = -100mA I _{B2} = 100mA, V _{CE} = -50V

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