

SOT223 NPN SILICON PLANAR HIGH CURRENT (HIGH PERFORMANCE) TRANSISTOR

FZT855

ISSUE 4 - NOVEMBER 2001

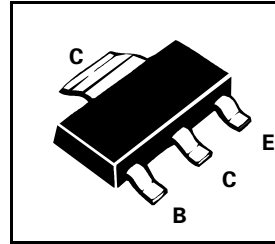


FEATURES

- * Up to 5 Amps continuous collector current, up to 10 Amp peak
- * Very low saturation voltage
- * Excellent h_{FE} specified up to 10 Amps

PARTMARKING DETAIL - FZT855

COMPLEMENTARY TYPE - FZT955



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	250	V
Collector-Emitter Voltage	V_{CEO}	150	V
Emitter-Base Voltage	V_{EBO}	6	V
Peak Pulse Current	I_{CM}	10	A
Continuous Collector Current	I_C	5	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 inch square minimum



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

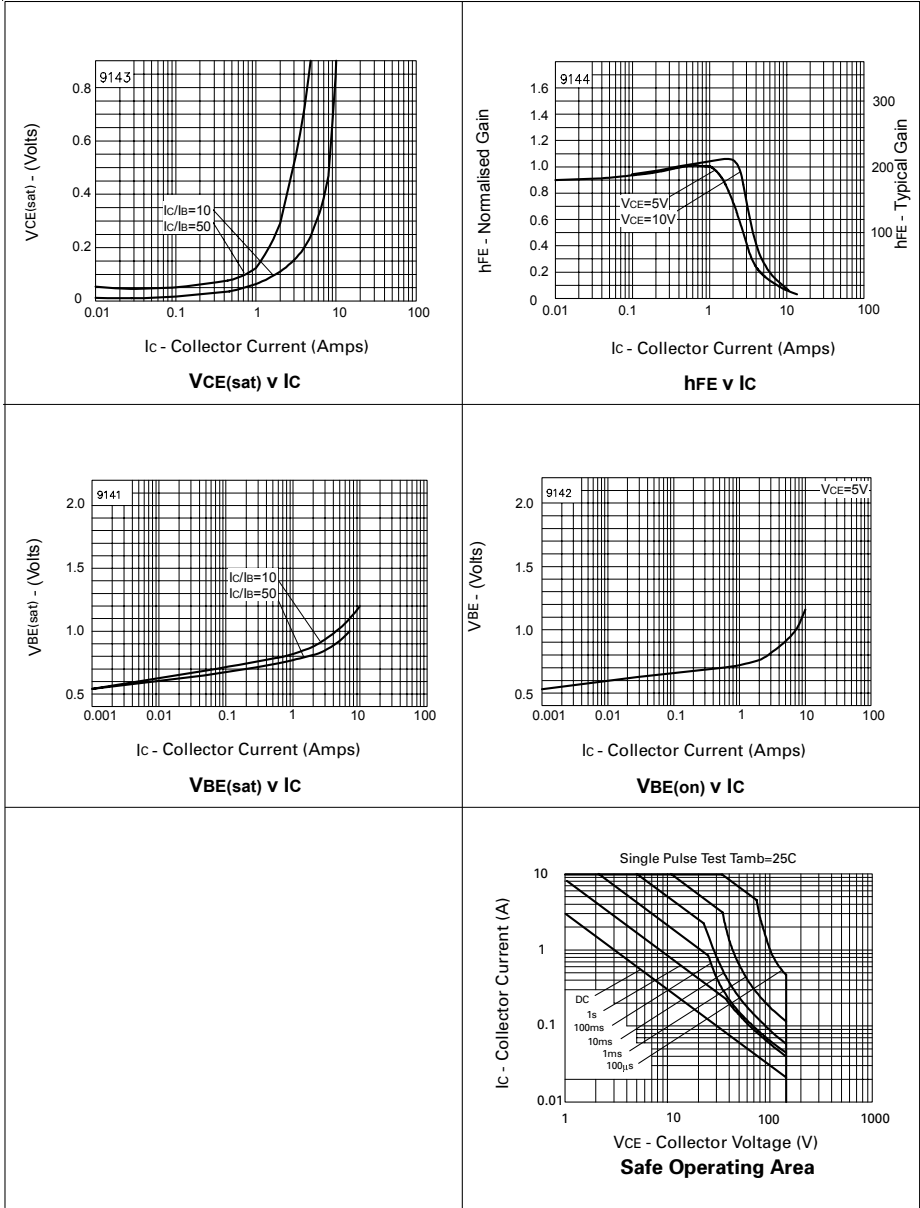
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	250	375		V	$I_C = 100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	250	375		V	$I_C = 1\mu\text{A}$, $R_B \leq 1\text{k}\Omega$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	150	180		V	$I_C = 10\text{mA}^*$
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	$V_{CB} = 200\text{V}$ $V_{CB} = 200\text{V}$, $T_{amb} = 100^{\circ}\text{C}$
Collector Cut-Off Current	I_{CER} $R \leq 1\text{k}\Omega$			50 1	nA μA	$V_{CB} = 200\text{V}$ $V_{CB} = 200\text{V}$, $T_{amb} = 100^{\circ}\text{C}$
Emitter Cut-Off Current	I_{EBO}			10	nA	$V_{EB} = 6\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		20 35 60 260	40 65 110 355	mV mV mV mV	$I_C = 100\text{mA}$, $I_B = 5\text{mA}^*$ $I_C = 500\text{mA}$, $I_B = 50\text{mA}^*$ $I_C = 1\text{A}$, $I_B = 100\text{mA}^*$ $I_C = 5\text{A}$, $I_B = 500\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1250	mV	$I_C = 5\text{A}$, $I_B = 500\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			1.1	V	$I_C = 5\text{A}$, $V_{CE} = 5\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	100 100 15	200 200 30 10	300		$I_C = 10\text{mA}$, $V_{CE} = 5\text{V}$ $I_C = 1\text{A}$, $V_{CE} = 5\text{V}^*$ $I_C = 5\text{A}$, $V_{CE} = 5\text{V}^*$ $I_C = 10\text{A}$, $V_{CE} = 5\text{V}^*$
Transition Frequency	f_T		90		MHz	$I_C = 100\text{mA}$, $V_{CE} = 10\text{V}$ $f = 50\text{MHz}$
Output Capacitance	C_{obo}		22		pF	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$
Switching Times	t_{on} t_{off}		66 2130		ns ns	$I_C = 1\text{A}$, $I_{B1} = 100\text{mA}$ $I_{B2} = 100\text{mA}$, $V_{CC} = 50\text{V}$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$



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TYPICAL CHARACTERISTICS





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