

# SOT223 PNP SILICON PLANAR HIGH CURRENT (HIGH PERFORMANCE) TRANSISTORS

**FZT957**  
**FZT958**

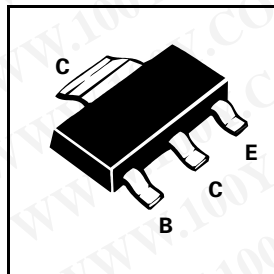
ISSUE 3 - JANUARY 1996

## FEATURES

- \* 1 Amp continuous current
- \* Up to 2 Amps peak current
- \* Very low saturation voltage
- \* Excellent gain characteristics specified up to 1 Amp

COMPLEMENTARY TYPES - FZT957 - FZT857  
FZT958 - N/A

PARTMARKING DETAILS - DEVICE TYPE IN FULL



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	FZT957	FZT958	UNIT
Collector-Base Voltage	$V_{CBO}$	-300	-400	V
Collector-Emitter Voltage	$V_{CEO}$	-300	-400	V
Emitter-Base Voltage	$V_{EBO}$	-6		V
Peak Pulse Current	$I_{CM}$	-2	-1.5	A
Continuous Collector Current	$I_C$	-1	-0.5	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 square inch minimum

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

# FZT957

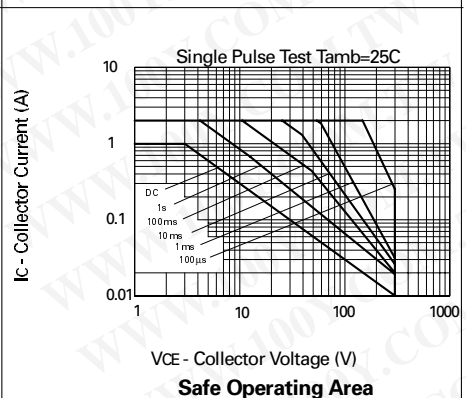
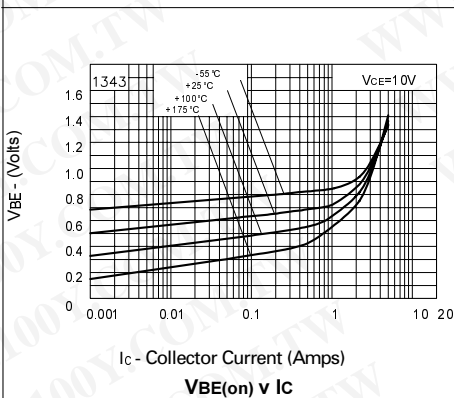
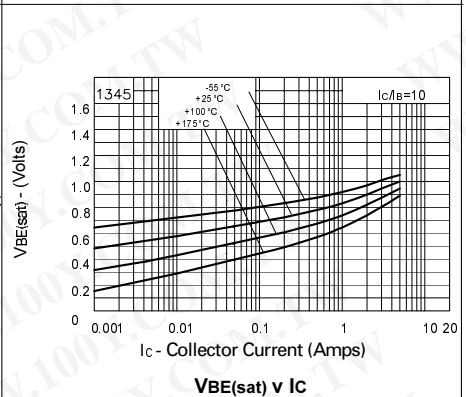
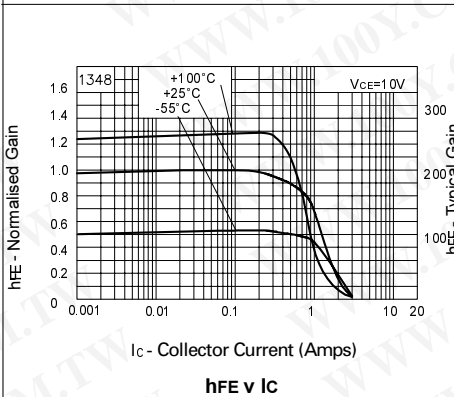
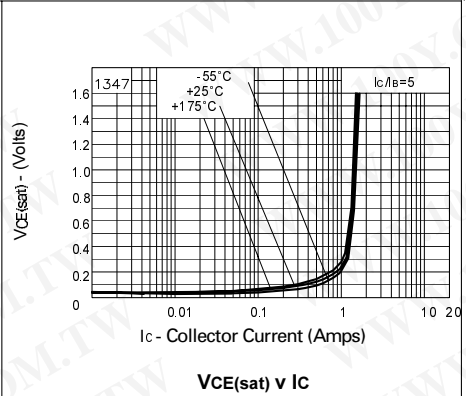
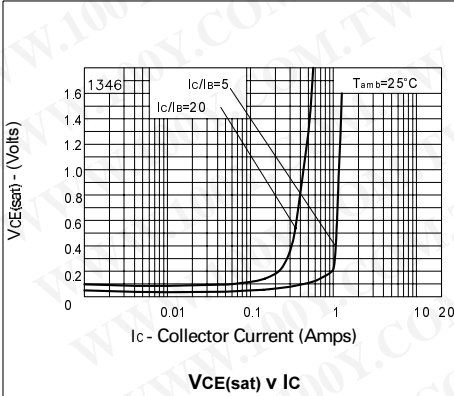
## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-330	-440		V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	-330	-440		V	$I_C = -1\mu\text{A}$ , $R_B \leq 1\text{k}\Omega$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-300	-400		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 $\mu\text{A}$	$V_{CB} = -300\text{V}$ $V_{CB} = -300\text{V}$ , $T_{amb} = 100^{\circ}\text{C}$
Collector Cut-Off Current	$I_{CER}$ $R \leq 1\text{k}\Omega$			-50 -1	nA $\mu\text{A}$	$V_{CB} = -300\text{V}$ $V_{CB} = -300\text{V}$ , $T_{amb} = 100^{\circ}\text{C}$
Emitter Cut-Off Current	$I_{EBO}$			-10	nA	$V_{EB} = -6\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-60 -110 -170	-100 -165 -240	mV mV mV	$I_C = -100\text{mA}$ , $I_B = -10\text{mA}^*$ $I_C = -500\text{mA}$ , $I_B = -100\text{mA}^*$ $I_C = -1\text{A}$ , $I_B = -300\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-910	-1150	mV	$I_C = -1\text{A}$ , $I_B = -300\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-750	-1020	mV	$I_C = -1\text{A}$ , $V_{CE} = -10\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	100 100 90	200 200 170 10	300		$I_C = -10\text{mA}$ , $V_{CE} = -10\text{V}^*$ $I_C = -0.5\text{A}$ , $V_{CE} = -10\text{V}^*$ $I_C = -1\text{A}$ , $V_{CE} = -10\text{V}^*$ $I_C = -2\text{A}$ , $V_{CE} = -10\text{V}^*$
Transition Frequency	$f_T$		85		MHz	$I_C = -100\text{mA}$ , $V_{CE} = -10\text{V}$ $f = 50\text{MHz}$
Output Capacitance	$C_{obo}$		23		pF	$V_{CB} = -20\text{V}$ , $f = 1\text{MHz}$
Switching Times	$t_{on}$ $t_{off}$		108 2500		ns ns	$I_C = -500\text{mA}$ , $I_{B1} = -50\text{mA}$ $I_{B2} = 50\text{mA}$ , $V_{CC} = -100\text{V}$

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

# FZT957

## TYPICAL CHARACTERISTICS



# FZT958

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-400	-600		V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	-400	-600		V	$I_C = -1\mu\text{A}$ , $R_B \leq 1\text{k}\Omega$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-400	-550		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 $\mu\text{A}$	$V_{CB} = -300\text{V}$ $V_{CB} = -300\text{V}$ , $T_{amb} = 100^{\circ}\text{C}$
Collector Cut-Off Current	$I_{CER}$ $R \leq 1\text{k}\Omega$			-50 -1	nA $\mu\text{A}$	$V_{CB} = -300\text{V}$ $V_{CB} = -300\text{V}$ , $T_{amb} = 100^{\circ}\text{C}$
Emitter Cut-Off Current	$I_{EBO}$			-10	nA	$V_{EB} = -6\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-100 -150 -340	-150 -200 -400	mV mV mV	$I_C = -10\text{mA}$ , $I_B = -1\text{mA}^*$ $I_C = -100\text{mA}$ , $I_B = -10\text{mA}^*$ $I_C = -500\text{mA}$ , $I_B = -100\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-830	-950	mV	$I_C = -500\text{mA}$ , $I_B = -100\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-725	-840	mV	$I_C = -500\text{mA}$ , $V_{CE} = -10\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	100 100 10	200 200 20	300		$I_C = -10\text{mA}$ , $V_{CE} = -10\text{V}^*$ $I_C = -500\text{mA}$ , $V_{CE} = -10\text{V}^*$ $I_C = -1\text{A}$ , $V_{CE} = -10\text{V}^*$
Transition Frequency	$f_T$		85		MHz	$I_C = -100\text{mA}$ , $V_{CE} = -10\text{V}$ $f = 50\text{MHz}$
Output Capacitance	$C_{obo}$		19		pF	$V_{CB} = -20\text{V}$ , $f = 1\text{MHz}$
Switching Times	$t_{on}$ $t_{off}$		104 2400		ns ns	$I_C = -500\text{mA}$ , $I_{B1} = -50\text{mA}$ $I_{B2} = 50\text{mA}$ , $V_{CC} = -100\text{V}$

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

# FZT958

## TYPICAL CHARACTERISTICS

