

# SOT223 NPN SILICON PLANAR HIGH PERFORMANCE TRANSISTOR

**FZT649**

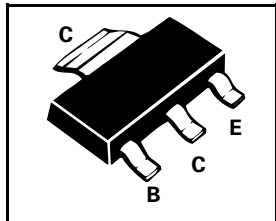
ISSUE 4- FEBRUARY 1996

## FEATURES

- \* 25 Volt  $V_{CE0}$
- \* 3 Amp continuous current
- \* Low saturation voltage
- \* Excellent  $h_{FE}$  specified up to 6A

COMPLEMENTARY TYPE – FZT749

PARTMARKING DETAIL – FZT649



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	35	V
Collector-Emitter Voltage	$V_{CEO}$	25	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Peak Pulse Current	$I_{CM}$	8	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	$^{\circ}C$

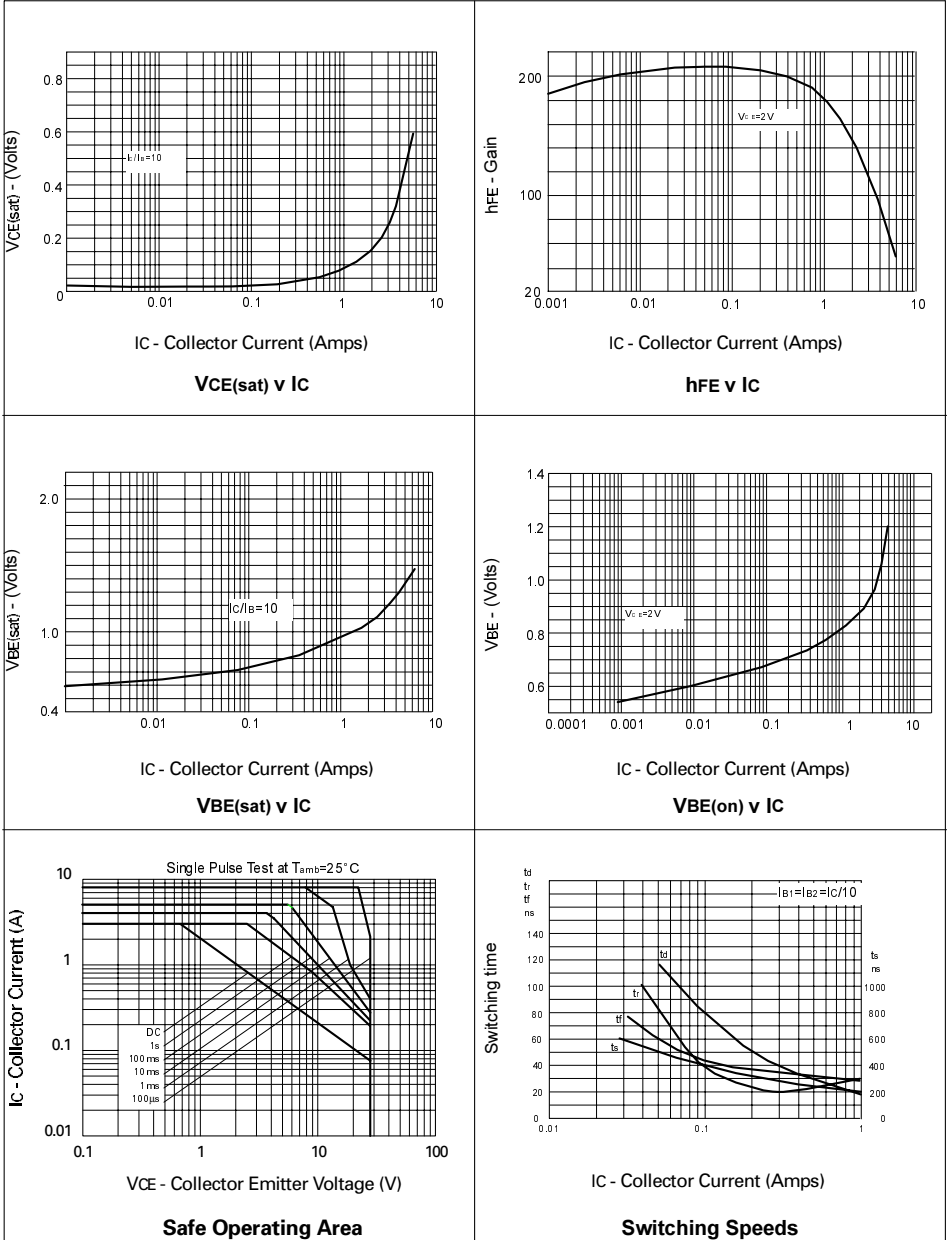
## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	35			V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25			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 10	$\mu A$	$V_{CB}=30V$ $V_{CE}=30V, T_{amb}=100^{\circ}C$
Emitter Cut-Off Current	$I_{EBO}$			0.1	$\mu A$	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.12 0.40	0.3 0.6	V	$I_C=1A, I_B=100mA^*$ $I_C=3A, I_B=300mA^*$
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	1.0	V	$I_C=1A, V_{CE}=2V^*$
Static Forward Current Transfer Ratio	$h_{FE}$	70 100 75 15	200 200 150 50	300		$I_C=50mA, V_{CE}=2V^*$ $I_C=1A, V_{CE}=2V^*$ $I_C=2A, V_{CE}=2V^*$ $I_C=6A, V_{CE}=2V^*$
Transition Frequency	$f_T$	150	240		MHz	$I_C=100mA, V_{CE}=5V$ $f=100MHz$
Output Capacitance	$C_{obo}$		25	50	pF	$V_{CB}=10V, f=1MHz$
Switching Times	$t_{on}$		55		ns	$I_C=500mA, V_{CC}=10V$
	$t_{off}$		300		ns	$I_{B1}=I_{B2}=50mA$

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

# FZT649

## TYPICAL CHARACTERISTICS





LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

[LittleDiode.com](http://LittleDiode.com)

Looking forward to providing you with the best possible service.