

# SOT223 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

## FZT657

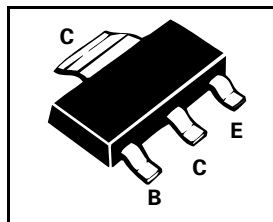
ISSUE 3- FEBRUARY 1995

### FEATURES

- \* Low saturation voltage

COMPLEMENTARY TYPE - FZT757

PARTMARKING DETAIL - FZT657



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	300	V
Collector-Emitter Voltage	$V_{CEO}$	300	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Peak Pulse Current	$I_{CM}$	1	A
Continuous Collector Current	$I_C$	0.5	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	$^{\circ}C$

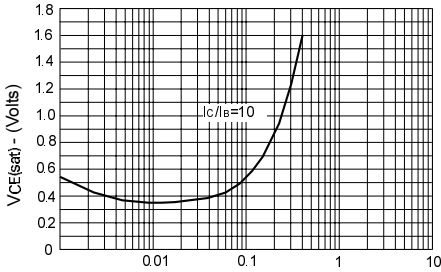
### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	300			V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	300			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	$\mu A$	$V_{CB}=200V$
Emitter Cut-Off Current	$I_{EBO}$			0.1	$\mu A$	$V_{EB}=3V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	$I_C=100mA, I_B=10mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.0	V	$I_C=100mA, I_B=10mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			1.0	V	$I_C=100mA, V_{CE}=5V^*$
Static Forward Current Transfer Ratio	$h_{FE}$	40 50				$I_C=10mA, V_{CE}=5V^*$ $I_C=100mA, V_{CE}=5V^*$
Transition Frequency	$f_T$	30			MHz	$I_C=10mA, V_{CE}=20V$ $f=20MHz$
Output Capacitance	$C_{obo}$			20	pF	$V_{CB}=20V, f=1MHz$

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

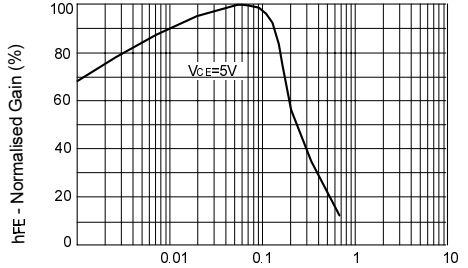
# FZT657

## TYPICAL CHARACTERISTICS



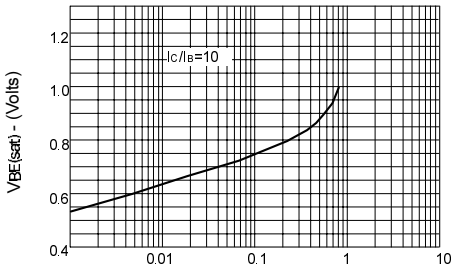
$I_C$  - Collector Current (Amps)

**$V_{CE(sat)}$  v  $I_C$**



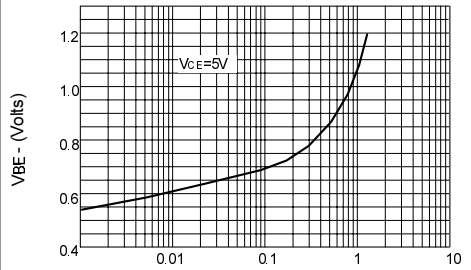
$I_C$  - Collector Current (Amps)

**$h_{FE}$  v  $I_C$**



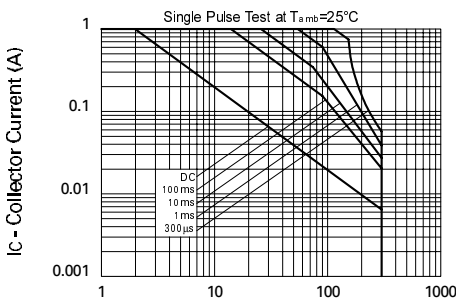
$I_C$  - Collector Current (Amps)

**$V_{BE(sat)}$  v  $I_C$**



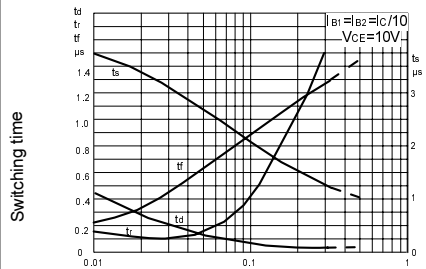
$I_C$  - Collector Current (Amps)

**$V_{BE(on)}$  v  $I_C$**



$V_{CE}$  - Collector Emitter Voltage (V)

**Safe Operating Area**



$I_C$  - Collector Current (Amps)

**Switching Speeds**