

# SOT223 PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

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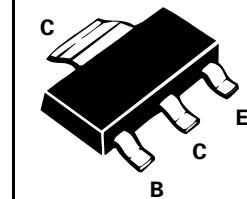
FZT788B

## FEATURES

- \* Low equivalent on-resistance;  $R_{CE(sat)}$  93m $\Omega$  at 3A
- \* Gain of 300 at  $I_C=2$  Amps and Very low saturation voltage

## APPLICATIONS

- \* Battery powered circuits
- COMPLEMENTARY TYPE – FZT688B
- PART MARKING DETAIL – FZT788B



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-15	V
Collector-Emitter Voltage	$V_{CEO}$	-15	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 $T_{amb}=25^\circ\text{C}$	$P_{tot}$	2	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	°C

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-15			V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-15			V	$I_C=10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E=100\mu\text{A}$
Collector Cut-Off Current	$I_{CBO}$			-0.1	$\mu\text{A}$	$V_{CE}=-10\text{V}$
Emitter Cut-Off Current	$I_{EBO}$			-0.1	$\mu\text{A}$	$V_{EB}=-4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.15 -0.25 -0.45 -0.5	V	$I_C=0.5\text{A}, I_B=2.5\text{mA}^*$ $I_C=1\text{A}, I_B=5\text{mA}^*$ $I_C=2\text{A}, I_B=10\text{mA}^*$ $I_C=3\text{A}, I_B=50\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-0.9	V	$I_C=1\text{A}, I_B=5\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.75		V	$I_C=1\text{A}, V_{CE}=2\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	500 400 300 150		1500		$I_C=10\text{mA}, V_{CE}=2\text{V}^*$ $I_C=1\text{A}, V_{CE}=2\text{V}^*$ $I_C=2\text{A}, V_{CE}=2\text{V}^*$ $I_C=6\text{A}, V_{CE}=2\text{V}^*$
Transition Frequency	$f_T$	100			MHz	$I_C=50\text{mA}, V_{CE}=-5\text{V}$ $f=50\text{MHz}$
Input Capacitance	$C_{ibo}$		225		pF	$V_{EB}=-0.5\text{V}, f=1\text{MHz}$
Output Capacitance	$C_{obo}$		25		pF	$V_{CE}=-10\text{V}, f=1\text{MHz}$
Switching Times	$t_{on}$ $t_{off}$		35 400		ns ns	$I_C=500\text{mA}, I_{B1}=50\text{mA}$ $I_{B2}=50\text{mA}, V_{CC}=-10\text{V}$

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

Spice parameter data is available upon request for this device

## TYPICAL CHARACTERISTICS

