

# SOT223 PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

## FZT790A

ISSUE 3 - OCTOBER 1995

### FEATURES

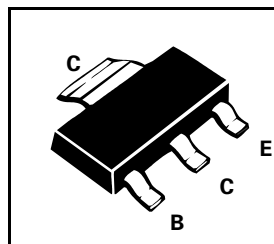
- \* Very low equivalent on-resistance;  $R_{CE(sat)}$  125m $\Omega$  at 2A
- \* Gain of 200 at  $I_C=1$  Amp and very low saturation voltage

### APPLICATIONS

- \* DC-DC converters, Siren drivers.

COMPLEMENTARY TYPE - FZT690B

PARTMARKING DETAIL - FZT790A



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-40	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-6	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 $T_{amb} = 25^{\circ}C$ )

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	-50	-70		V	$I_C=-100\mu A$
	$V_{(BR)CEO}$	-40	-60		V	$I_C=-10mA^*$
	$V_{(BR)EBO}$	-5	-8.5		V	$I_E=-100\mu A$
Collector Cut-Off Current	$I_{CBO}$			-0.1 -10	$\mu A$ $\mu A$	$V_{CB}=-30V$ $V_{CB}=-30V, T_{amb}=100^{\circ}C$
Emitter Cut-Off Current	$I_{EBO}$			-0.1	$\mu A$	$V_{EB}=-4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.15 -0.30 -0.40	-0.25 -0.45 -0.75	V V V	$I_C=500mA, I_B=5mA^*$ $I_C=1A, I_B=10mA^*$ $I_C=2A, I_B=50mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.8	-1.0	V	$I_C=1A, I_B=10mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.75		V	$I_C=1A, V_{CE}=-2V^*$
Static Forward Current Transfer Ratio	$h_{FE}$	300 250 200 150		800		$I_C=10mA, V_{CE}=-2V$ $I_C=500mA, V_{CE}=-2V^*$ $I_C=1A, V_{CE}=-2V^*$ $I_C=2A, V_{CE}=-2V^*$
Transition Frequency	$f_T$	100			MHz	$I_C=50mA, V_{CE}=-5V$ $f=50MHz$
Output Capacitance	$C_{obo}$		24		pF	$V_{CB}=-10V, f=1MHz$
Switching Times	$t_{on}$ $t_{off}$		35 600		ns ns	$I_C=500mA,$ $I_{B1}=-50mA,$ $I_{B2}=-50mA, V_{CC}=-10V$

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

# FZT790A

## TYPICAL CHARACTERISTICS

