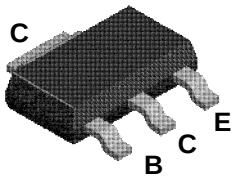
FAIRCHILD SEMICONDUCTOR TM

Discrete Power & Signal Technologies

July 1998

FZT790A



SOT-223

PNP Low Saturation Transistor

These devices are designed with high current gain and low saturation voltage with collector currents up to 3A continuous.

Absolute Maximum Ratings* $T_{A = 25°C \text{ unless otherwise noted}}$

Symbol	Parameter	FZT790A	Units
V_{CEO}	Collector-Emitter Voltage	40	V
V_{CBO}	Collector-Base Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current - Continuous	3	A
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:
1) These ratings are based on a maximum junction temperature of 150°C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics $T_{A = 25°C \text{ unless otherwise noted}}$

Symbol	Characteristic	Max	Units
		FZT790A	
P_D	Total Device Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	62.5	°C/W

PNP Low Saturation Transistor
(continued)

Electrical Characteristics
$T_{A = 25°C}$ unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10 mA	40		V
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 100 μA	50		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 100 μA	5		V
I_{CBO}	Collector Cutoff Current	V_{CB} = 30 V V_{CB} = 30 V, T_A=100°C		100 10	nA uA
I_{EBO}	Emitter Cutoff Current	V_{EB} = 4V		100	nA
ON CHARACTERISTICS*					
h_{FE}	DC Current Gain	I_C = 10 mA, V_{CE} = 2 V I_C = 500 mA, V_{CE} = 2 V I_C = 1 A, V_{CE} = 2 V I_C = 2 A, V_{CE} = 2 V	300 250 200 150	800	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 500 mA, I_B = 5 mA I_C = 1 A, I_B = 10 mA I_C = 2 A, I_B = 50 mA		250 450 750	mV
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C = 1 A, I_B = 10 mA		1	V
SMALL SIGNAL CHARACTERISTICS					
f_T	Transition Frequency	I_C = 50 mA,V_{CE} = 5 V, f=50MHz	100		-

*Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%

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