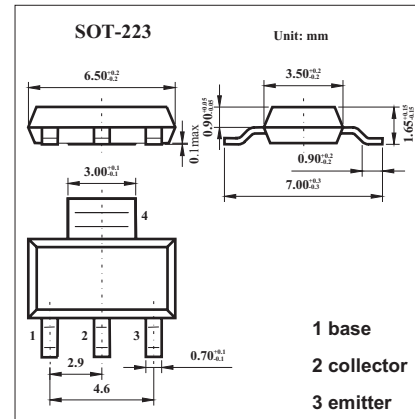


## NPN Silicon Planar Medium Power High Gain Transistor

### FZT789A

#### ■ 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.



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-25	V
Collector-emitter voltage	$V_{CEO}$	-25	V
Emitter-base voltage	$V_{EBO}$	-5	V
Continuous collector current	$I_{CM}$	-6	A
Peak pulse current	$I_c$	-3	A
Power dissipation	$P_{tot}$	2	W
Operating and storage temperature range	$T_j, T_{stg}$	-55 to +150	$^\circ\text{C}$

## FZT789A

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Breakdown Voltages	V(BR)CBO	Ic=-100μA	-25	-40		V
Breakdown Voltages *	V(BR)CEO	Ic=-10mA	-25	-35		V
Breakdown Voltages	V(BR)EBO	IE=-100μA	-5	-8.5		V
Collector Cut-Off Current	IcBO	V <sub>CB</sub> =-15V V <sub>CB</sub> =-15V, Ta = 100°C			-0.1 10	μA
Emitter Cut-Off Current	IEBO	VEB=-4V			-0.1	μA
Saturation Voltages *	V <sub>CE(sat)</sub>	Ic=-1A, IB=-10mA Ic=-2A, IB=-20mA Ic=-3A, IB=-100mA		-0.15 -0.30 -0.30	-0.25 -0.45 -0.50	V
Saturation Voltages *	V <sub>BE(sat)</sub>	Ic=-1A, IB=-10mA		-0.8	-1.0	V
Base-Emitter Turn-On Voltage *	V <sub>BE(on)</sub>	Ic=-1A, V <sub>CE</sub> =-2V		-0.8		V
Static Forward Current Transfer Ratio	h <sub>FE</sub>	Ic=-10mA, V <sub>CE</sub> =-2V	300		800	
		Ic=-1A, V <sub>CE</sub> =-2V*	250			
		Ic=-2A, V <sub>CE</sub> =-2V*	200			
		Ic=-6A, V <sub>CE</sub> =-2V*	100			
Transitional frequency	f <sub>T</sub>	Ic=-50mA, V <sub>CE</sub> =-5V, f=50MHz	100			MHz
Input capacitance	C <sub>ibo</sub>	VEB=-0.5V, f=1MHz		225		pF
Output capacitance	C <sub>obo</sub>	V <sub>CB</sub> =-10V, f=1MHz		25		pF
Turn-on time	t <sub>(on)</sub>	Ic=-500mA, V <sub>CC</sub> =-10V		35		ns
Turn-off time	t <sub>(off)</sub>	IB1=IB2=-50mA		400		ns

\* Pulse test: tp = 300 μs; d ≤ 0.02.

## ■ Marking

Marking	FZT789A
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