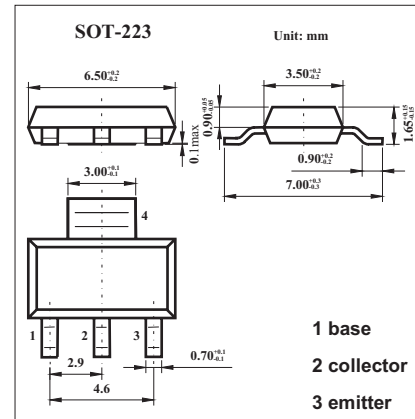


NPN Silicon Planar Medium Power High Gain Transistor FZT688B

■ Features

- Extremely low equivalent on resistance; $R_{CE(sat)} 83m\Omega$ at 3A.
- Gain of 400 at $I_c=3$ Amps and very low saturation voltage.



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	12	V
Collector-emitter voltage	V_{CE0}	12	V
Emitter-base voltage	V_{EB0}	5	V
Peak pulse current	I_c	4	A
Continuous collector current	I_{CM}	10	A
Power dissipation	P_{tot}	2	W
Operating and storage temperature range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

FZT688B

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Breakdown Voltages	V(BR)CBO	Ic=100μA	12			V
Breakdown Voltages	V(BR)CEO	Ic=10mA	12			V
Breakdown Voltages	V(BR)EBO	IE=100μA	5			V
Collector Cut-Off Current	ICBO	VCB=10V			0.1	μA
Emitter Cut-Off Current	IEBO	VEB=4V			0.1	μA
Collector-emitter saturation voltage *	VCE(sat)	Ic=0.1A, IB=1mA Ic=0.1A, IB=0.5mA Ic=1A, IB=50mA Ic=3A, IB=20mA Ic=4A, IB=50mA			0.04 0.06 0.18 0.35 0.40	V
Base-emitter saturation voltage *	VBE(sat)	Ic=3A, IB=20mA			1.1	V
Base-Emitter Turn-On Voltage *	VBE(on)	Ic=3A, VCE=2V			1.0	V
Static Forward Current Transfer Ratio*	hFE	Ic=0.1A, VCE=2V Ic=3A, VCE=2V Ic=10A, VCE=2V	500 400 100			
Transitional frequency	fr	Ic=50mA, VCE=5V f=50MHz	150			MHz
Input capacitance	Cibo	VEB=0.5V, f=1MHz		200		pF
Output capacitance	CoBo	VCB=10V, f=1MHz		40		pF
Turn-on time	t(on)	Ic=500mA, VCC=10V		40		ns
Turn-off time	t(off)	IB1=50A, IB2=50mA		500		ns

* Pulse test: tp = 300 μs; d ≤ 0.02.

■ Marking

Marking	FZT688B
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