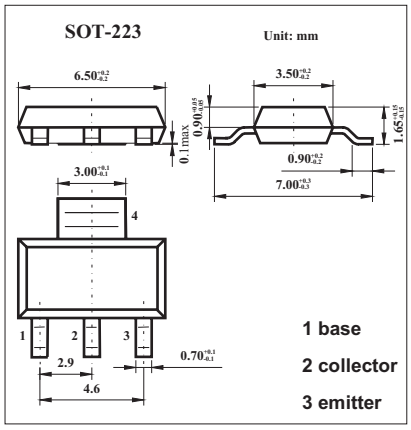
NPN Silicon Planar High Current (High Performance)Transistor

FZT851



Features

- Extremely low equivalent on-resistance; $R_{CE(sat)}$44mΩ at 5A.
- 6 Amps continuous current, up to 20 Amps peak current.
- Very low saturation voltages.
- Excellent hFE characteristics specified up to 10 Amps.

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	150	V
Collector-emitter voltage	V_{CEO}	60	V
Emitter-base voltage	V_{EBO}	6	V
Peak pulse current	I_C	6	A
Continuous collector current	I_{CM}	20	A
Power dissipation	P_{tot}	3	W
Operating and storage temperature range	T_j,T_{stg}	-55 to +150	℃

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA	150			V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	I_C=10mA	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA	6			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=120V V_{CB}=120V,Ta = 100℃			50 1	nA μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=6V			10	nA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C=0.1A, I_B=5mA I_C=1A, I_B=50mA I_C=2A, I_B=50mA I_C=6A, I_B=300mA			50 100 170 375	mV
Base-emitter saturation voltage *	$V_{BE(sat)}$	I_C=6A, I_B=300mA			1200	mV
Base-Emitter Turn-On Voltage *	$V_{BE(on)}$	I_C=6A, V_{CE}=1V			1150	mV
Static Forward Current Transfer Ratio*	h_{FE}	I_C=10mA, V_{CE}=1V	100	200		
		I_C=2A, V_{CE}=1V*	100	200	300	
		I_C=5A, V_{CE}=1V*	75	120		
		I_C=10A, V_{CE}=1V*	25	50		
Transitional frequency	f_T	I_C=100mA, V_{CE}=10V f=50MHz		130		MHz
Output capacitance	C_{obo}	V_{CB}=10V, f=1MHz		45		pF
Turn-on time	$t_{(on)}$	I_C=1A, V_{CC}=10V		45		ns
Turn-off time	$t_{(off)}$	I_{B1}=I_{B2}=100mA		1100		ns

* Pulse test: tp = 300 μs; d ⩽ 0.02.

■ Marking

Marking	FZT851