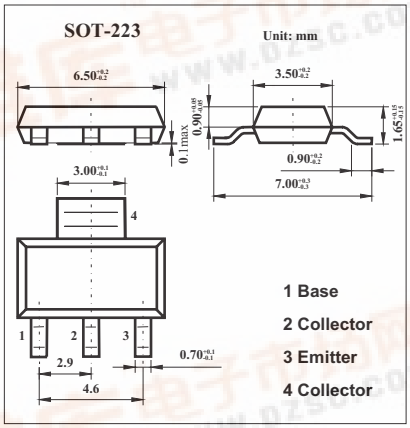
NPN Silicon Planar High Current Transistor

FZT853



■ 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 h_{FE} characteristics specified up to 10 Amps

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	200	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	6	V
Peak Pulse Current	I_{CM}	10	A
Continuous Collector Current	I_C	6	A
Power Dissipation at T_{amb}=25℃	P_{tot}	3	W
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	℃

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■ Electrical Characteristics Ta = 25℃ unless otherwise stated

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=100μA	150	220		V
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	I_C=1μA, R_B≤1KΩ	150	220		V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=10mA*	60	85		V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=100μA	6	8		V
Collector Cut-Off Current	I_{CBO}	V_{CB}=120V			50	nA
		V_{CB}=120V,T_{amb}=100℃			1	μA
Collector Cut-Off Current R≤1KΩ	I_{CER}	V_{CB}=120V			50	nA
		V_{CB}=120V,T_{amb}=100℃			1	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=50mA*			50	mV
		I_C=1A, I_B=50mA*			100	mV
		I_C=2A, I_B=50mA*			170	mV
		I_C=6A, I_B=300mA*			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	V
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		
Transition Frequency	f_T	I_C=100mA, V_{CE}=10V,f=50MHz		130		MHz
Output Capacitance	C_{obo}	V_{CB}=10V, f=1MHz		45		pF
Switching Times	t_{on}	I_C=1A, I_{B1}=100mA		45		ns
	t_{off}	I_{B2}=100mA, V_{CC}=10V		1100		ns

*Measured under pulsed conditions. Pulse width=300μs. Duty cycle≤2%