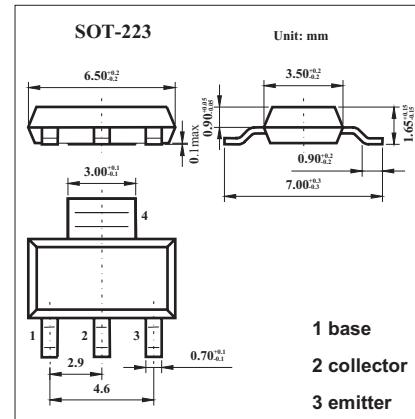


NPN Silicon Planar High Current (High Performance) Transistor

FZT851

■ Features

- Extremely low equivalent on-resistance; $R_{CE(sat)} 44m\Omega$ 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	150	V
Collector-emitter voltage	V_{CE0}	60	V
Emitter-base voltage	V_{EB0}	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	$^\circ\text{C}$

FZT851

■ Electrical Characteristics Ta = 25°C

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°C			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: t_p = 300 μs; d ≤ 0.02.

■ Marking

Marking	FZT851
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