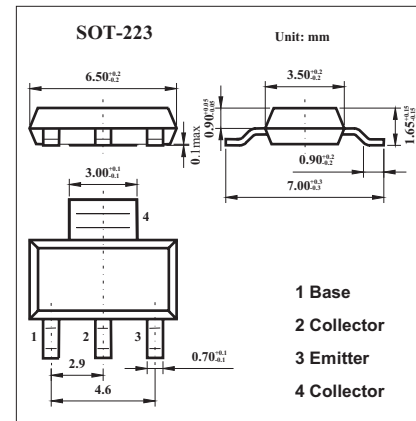


NPN Silicon Planar High Performance Transistor

FZT653

■ Features

- Low saturation voltage



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	120	V
Collector-Emitter Voltage	V _{CE0}	100	V
Emitter-Base Voltage	V _{EB0}	5	V
Peak Pulse Current	I _{CM}	6	A
Continuous Collector Current	I _C	2	A
Power Dissipation at T _{amb} =25°C	P _{tot}	2	W
Operating and Storage Temperature Range	T _J ; T _{stg}	-55 to +150	°C

FZT653

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ.	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$	120			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}^*$	100			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$	5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=100\text{V}$			0.1	μA
		$V_{CB}=100\text{V}, T_{amb}=100^\circ\text{C}$			10	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4\text{V}$			0.1	μA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1\text{A}, I_B=100\text{mA}^*$		0.13	0.3	V
		$I_C=2\text{A}, I_B=200\text{mA}^*$		0.23	0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1\text{A}, I_B=100\text{mA}^*$		0.9	1.25	V
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	$I_C=1\text{A}, V_{CE}=2\text{V}^*$		0.8	1.0	V
Static Forward Current Transfer Ratio	h_{FE}	$I_C=50\text{mA}, V_{CE}=2\text{V}^*$	70	200		
		$I_C=500\text{mA}, V_{CE}=2\text{V}^*$	100	200	300	
		$I_C=1\text{A}, V_{CE}=2\text{V}^*$	55	110		
		$I_C=2\text{A}, V_{CE}=2\text{V}^*$	25	55		
Transition Frequency	f_T	$I_C=100\text{mA}, V_{CE}=5\text{V}, f=100\text{MHz}$	140	175		MHz
Output Capacitance	C_{obo}	$V_{CB}=10\text{V}, f=1\text{MHz}$			30	pF
Switching Times	t_{on}	$I_C=500\text{mA}, V_{CC}=10\text{V}$		80		ns
	t_{off}	$I_{B1}=I_{B2}=50\text{mA}$		1200		ns

* Measured under pulsed conditions. Pulse Width=300 μs . Duty cycle \leq 2%

■ Marking

Marking	FZT653
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