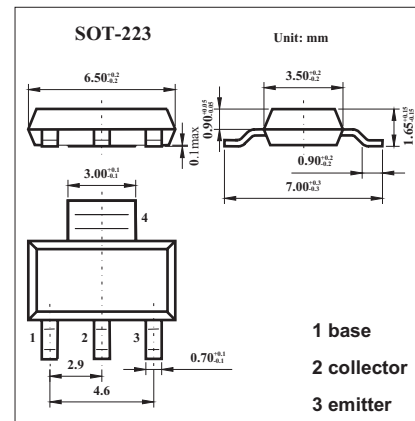


NPN Silicon Planar High Performance Transistor

FZT649

■ Features

- 25 Volt V_{CEO} .
- 3 Amp continuous current.
- Low saturation voltage.
- Excellent h_{FE} specified up to 6A.



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	35	V
Collector-emitter voltage	V_{CEO}	25	V
Emitter-base voltage	V_{EBO}	5	V
Peak pulse current	I_c	3	A
Continuous collector current	I_{CM}	8	A
Power dissipation	P_{tot}	2	W
Operating and storage temperature range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

FZT649■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$	35			V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C=10\text{mA}$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$	5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30\text{V}$ $V_{CB}=30\text{V}, T_a = 100^\circ\text{C}$			0.1 10	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4\text{V}$			0.1	μA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C=1\text{A}, I_B=100\text{mA}$ $I_C=3\text{A}, I_B=300\text{mA}$		0.12 0.40	0.30 0.60	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		
		$I_C=1\text{A}, V_{CE}=2\text{V}^*$	100	200	300	
		$I_C=2\text{A}, V_{CE}=2\text{V}^*$	75	150		
		$I_C=6\text{A}, V_{CE}=2\text{V}^*$	15	50		
Transitional frequency	f_T	$I_C=100\text{mA}, V_{CE}=5\text{V}, f=100\text{MHz}$	150	240		MHz
Output capacitance	C_{obo}	$V_{CB}=10\text{V}, f=1\text{MHz}$		25	50	pF
Switching times	t_{on}	$I_C=500\text{mA}, V_{CC}=10\text{V}, I_{B1}=I_{B2}=50\text{mA}$		55		ns
	t_{off}			300		ns

* Pulse test: $t_p = 300\mu\text{s}; d \leq 0.02$.

■ Marking

Marking	FZT649
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