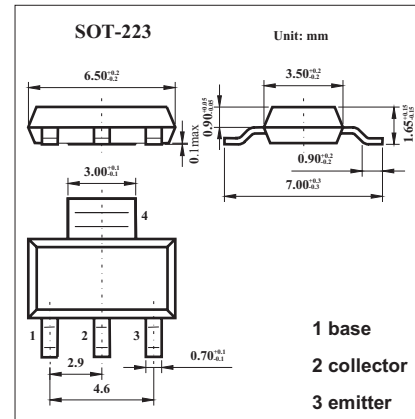


## NPN Silicon Planar High Performance Transistor

### FZT649

#### ■ Features

- 25 Volt  $V_{CE0}$ .
- 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 Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A$	35			V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C=10mA$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A$	5			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=30V$ $V_{CB}=30V, T_a = 100^\circ C$			0.1 10	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=4V$			0.1	$\mu A$
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C=1A, I_B=100mA$ $I_C=3A, I_B=300mA$		0.12 0.40	0.30 0.60	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C=1A, I_B=100mA$		0.9	1.25	V
Base-Emitter Turn-On Voltage *	$V_{BE(on)}$	$I_C=1A, V_{CE}=2V$		0.8	1.0	V
Static Forward Current Transfer Ratio	$h_{FE}$	$I_C=50mA, V_{CE}=2V^*$	70	200		
		$I_C=1A, V_{CE}=2V^*$	100	200	300	
		$I_C=2A, V_{CE}=2V^*$	75	150		
		$I_C=6A, V_{CE}=2V^*$	15	50		
Transitional frequency	$f_T$	$I_C=100mA, V_{CE}=5V, f=100MHz$	150	240		MHz
Output capacitance	$C_{obo}$	$V_{CB}=10V, f=1MHz$		25	50	pF
Switching times	$t_{on}$	$I_C=500mA, V_{CC}=10V, I_{B1}=I_{B2}=50mA$		55		ns
	$t_{off}$			300		ns

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

## ■ Marking

Marking	FZT649
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