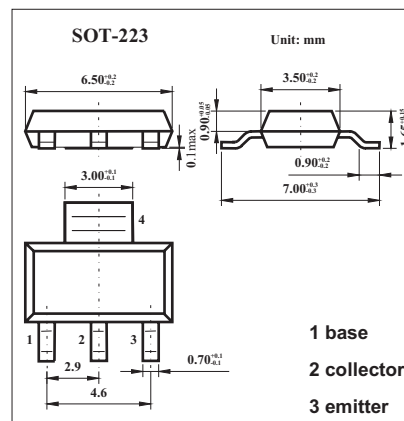


NPN Silicon Planar High Current (High Performance) Transistor

FZT869

■ Features

- Extremely low equivalent on-resistance; $R_{CE(sat)} 44m\Omega$ at 5A.
- 7 Amp continuous collector current (20 Amp peak).
- Very low saturation voltages.
- Excellent gain characteristics specified upto 20 Amp.
- $P_{tot} = 3$ Watts.



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	25	V
Emitter-base voltage	V_{EBO}	6	V
Peak pulse current	I_c	7	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	$^\circ\text{C}$

FZT869■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$	60	120		V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C=10\text{mA}$	25	35		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$	6	8		V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=50\text{V}$ $V_{CB}=50\text{V}, T_a = 100^\circ\text{C}$			50 1	nA μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=6\text{V}$			10	nA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C=0.5\text{A}, I_B=10\text{mA}$ $I_C=1\text{A}, I_B=10\text{mA}$ $I_C=2\text{A}, I_B=10\text{mA}$ $I_C=6.5\text{A}, I_B=150\text{mA}$		35 67 168	50 110 215 350	mV
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C=6.5\text{A}, I_B=300\text{mA}$			1.2	V
Base-Emitter Turn-On Voltage *	$V_{BE(on)}$	$I_C=6.5\text{A}, V_{CE}=1\text{V}$			1.13	V
DC current gain *	h_{FE}	$I_C=10\text{mA}, V_{CE}=1\text{V}$ $I_C=1\text{A}, V_{CE}=1\text{V}$ $I_C=7\text{A}, V_{CE}=1\text{V}$ $I_C=20\text{A}, V_{CE}=2\text{V}$	300 300 200 40	450 450 300 100		
Transitional frequency	f_T	$I_C=100\text{mA}, V_{CE}=10\text{V}, f=50\text{MHz}$		100		MHz
Output capacitance	C_{obo}	$V_{CB}=10\text{V}, f=1\text{MHz}$		70		pF
Turn-on time	$t_{(on)}$	$I_C=1\text{A}, V_{CC}=10\text{V}$		60		ns
Turn-off time	$t_{(off)}$	$I_{B1}=I_{B2}=100\text{mA}$		680		ns

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

■ Marking

Marking	FZT869
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