

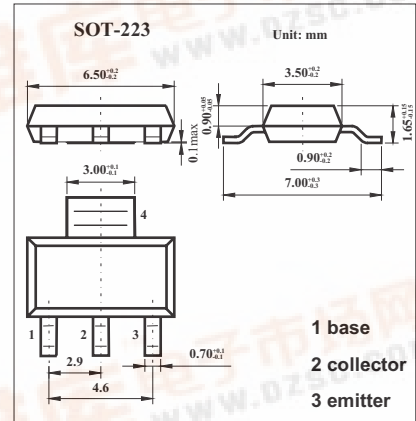
SMD Type Transistors

NPN Silicon Planar Medium Power High Gain Transistor

FZT1048A

■ Features

- V_{CEO} = 17.5V.
- 5 Amp continuous current.
- 20 Amp pulse current.
- Low saturation voltage.
- High gain.
- Extremely low equivalent on-resistance; R_{CE(sat)} = 50mΩ at 5A.



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V _{CB0}	50	V
Collector-emitter voltage	V _{CEO}	17.5	V
Emitter-base voltage	V _{EB0}	5	V
Peak pulse current	I _C	5	A
Continuous collector current	I _{CM}	20	A
Base current	I _B	500	mA
Power dissipation	P _{tot}	2.5	W
Operating and storage temperature range	T _j , T _{stg}	-55 to +150	°C

FZT1048A

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A$	50	85		V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C=10mA$	17.5	24		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A$	5	8.7		V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=35V$		0.3	10	nA
Collector-emitter cut-off current	I_{CES}	$V_{CE}=35V$		0.3	10	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4V$		0.3	10	nA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C=0.5A, I_B=10mA$		27	45	mV
		$I_C=1A, I_B=10mA$		55	75	
		$I_C=3A, I_B=15mA$		155	210	
		$I_C=5A, I_B=25mA$		250	350	
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C=5A, I_B=25mA$		920	1000	mV
Base-emitter ON voltage *	$V_{BE(on)}$	$I_C=5A, V_{CE}=2V$		880	970	mV
Static Forward Current Transfer Ratio	h_{FE}	$I_C=10mA, V_{CE}=2V^*$	280	440		
		$I_C=0.5A, V_{CE}=2V^*$	300	450		
		$I_C=1A, V_{CE}=2V^*$	300	450	1200	
		$I_C=5A, V_{CE}=2V^*$	180	300		
		$I_C=20A, V_{CE}=2V^*$	50	80		
Transitional frequency	f_T	$I_C=50mA, V_{CE}=10V, f=50MHz$		150		MHz
Output capacitance	C_{obo}	$V_{CB}=10V, f=1MHz$		60	80	pF
Turn-on time	$t_{(on)}$	$I_C=4A, V_{CC}=10V$		120		ns
Turn-off time	$t_{(off)}$	$I_{B1}=I_{B2}=40mA$		310		ns

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