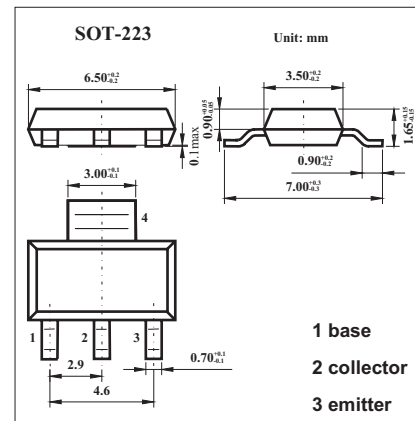


NPN Silicon Planar Medium Power High Gain Transistor

FZT1048A

■ Features

- $V_{CE0} = 17.5V$.
- 5 Amp continuous current.
- 20 Amp pulse current.
- Low saturation voltage.
- High gain.
- Extremely low equivalent on-resistance; $R_{CE(sat)} = 50m\Omega$ at 5A.



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	17.5	V
Emitter-base voltage	V_{EBO}	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	$^\circ C$

FZT1048A

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100μA	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 =100μA	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 I _C =1A, I _B =10mA I _C =3A, I _B =15mA I _C =5A, I _B =25mA		27 55 155 250	45 75 210 350	mV
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 μs; d ≤ 0.02.