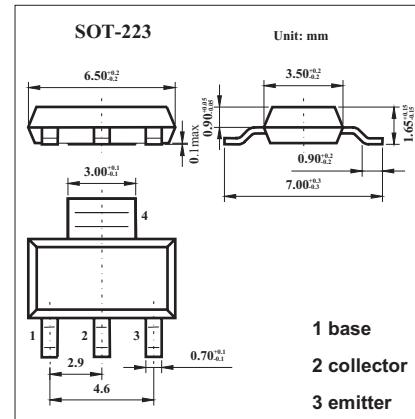


NPN Silicon Planar Medium Power High Gain Transistor

FZT1053A

■ Features

- $V_{CE0} = 75V$.
- 4.5 Amp continuous current.
- 10 Amp pulse current.
- Low saturation voltage.
- High gain.
- Extremely low equivalent on-resistance; $R_{CE(sat)} = 78m\Omega$ at 4.5A.



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	150	V
Collector-emitter voltage	V_{CEO}	75	V
Emitter-base voltage	V_{EBO}	7.5	V
Peak pulse current	I_C	4.5	A
Continuous collector current	I_{CM}	10	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	$^\circ C$

FZT1053A

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	V(BR)CBO	I _C =100μA	150	250		V
Collector-emitter breakdown voltage *	V(BR)CEO	I _C =10mA	75	100		V
Emitter-base breakdown voltage	V(BR)EBO	I _E =100μA	7.5	8.8		V
Collector-base cut-off current	I _{CBO}	V _{CB} =120V		0.9	10	nA
Collector-emitter cut-off current	I _{CES}	V _{CE} =120V		1.5	10	nA
Emitter Cut-Off Current	I _{EBO}	V _{EB} =4V		0.3	10	nA
Collector-emitter saturation voltage *	V _{CE(sat)}	I _C =0.2A, I _B =20mA I _C =0.5A, I _B =20mA I _C =1A, I _B =10mA I _C =2A, I _B =100mA I _C =4.5A, I _B =200mA		21 55 150 160 350	30 75 200 210 440	mV
Base-emitter saturation voltage *	V _{BE(sat)}	I _C =3A, I _B =100mA		900	1000	mV
Base-emitter ON voltage *	V _{BE(on)}	I _C =3A, V _{CE} =2V		825	950	mV
Static Forward Current Transfer Ratio	h _{FE}	I _C =10mA, V _{CE} =2V*	270	440		
		I _C =0.5A, V _{CE} =2V*	300	450	1200	
		I _C =1A, V _{CE} =2V*	300	450		
		I _C =4.5A, V _{CE} =2V*	40	60		
		I _C =10A, V _{CE} =2V*		20		
Transitional frequency	f _T	I _C =50mA, V _{CE} =10V f=100MHz		140		MHz
Output capacitance	C _{obo}	V _{CB} =10V, f=1MHz		21	30	pF
Turn-on time	t _(on)	I _C =2A, V _{CC} =50V		162		ns
Turn-off time	t _(off)	I _{B1} =I _{B2} =20mA		900		ns

* Pulse test: t_p = 300 μs; d ≤ 0.02.