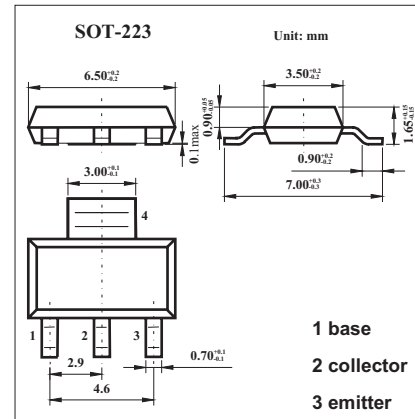


NPN Silicon Planar Medium Power High Gain Transistor

FZT1051A

■ Features

- $V_{CE0} = 40V$.
- 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}	150	V
Collector-emitter voltage	V_{CEO}	40	V
Emitter-base voltage	V_{EBO}	5	V
Peak pulse current	I_C	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	$^\circ C$

FZT1051A

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100μA	150	190		V
Collector-emitter breakdown voltage *	V _{(BR)CEO}	I _C =10mA	40	60		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =100μA	5	9		V
Collector Cut-Off Current	I _{CBO}	V _{CB} =120V		0.3	10	nA
Collector-emitter cut-off current	I _{CES}	V _{CE} =120V		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 =0.2A, I _B =10mA I _C =1A, I _B =10mA I _C =2A, I _B =20mA I _C =5A, I _B =100mA		17 85 140 250	25 120 180 340	mV
Base-emitter saturation voltage *	V _{BE(sat)}	I _C =5A, I _B =100mA		980	1100	mV
Base-emitter ON voltage *	V _{BE(on)}	I _C =5A, V _{CE} =2V		915	1000	mV
Static Forward Current Transfer Ratio	h _{FE}	I _C =10mA, V _{CE} =2V*	290	440		
		I _C =1A, V _{CE} =2V*	270	450	1200	
		I _C =5A, V _{CE} =2V*	130	220		
		I _C =10A, V _{CE} =2V*	40	55		
Transitional frequency	f _T	I _C =50mA, V _{CE} =10V f=100MHz		155		MHz
Output capacitance	C _{obo}	V _{CB} =10V, f=1MHz		27	40	pF
Turn-on time	t _(on)	I _C =3A, V _{CC} =10V		220		ns
Turn-off time	t _(off)	I _{B1} =I _{B2} =30mA		540		ns

* Pulse test: t_p = 300 μs; d ≤ 0.02.