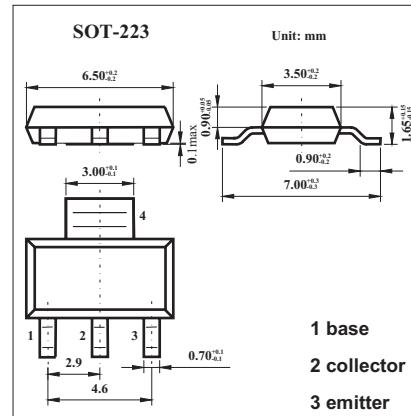


NPN Silicon Planar Medium Power High Gain Transistor

FZT1051A

■ Features

- $V_{CEO} = 40V$.
- 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	°C

FZT1051A■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$	150	190		V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C=10\text{mA}$	40	60		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$	5	9		V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=120\text{V}$		0.3	10	nA
Collector-emitter cut-off current	I_{CES}	$V_{CE}=120\text{V}$		0.3	10	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4\text{V}$		0.3	10	nA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C=0.2\text{A}, I_B=10\text{mA}$ $I_C=1\text{A}, I_B=10\text{mA}$ $I_C=2\text{A}, I_B=20\text{mA}$ $I_C=5\text{A}, I_B=100\text{mA}$		17 85 140 250	25 120 180 340	mV
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C=5\text{A}, I_B=100\text{mA}$		980	1100	mV
Base-emitter ON voltage *	$V_{BE(on)}$	$I_C=5\text{A}, V_{CE}=2\text{V}$		915	1000	mV
Static Forward Current Transfer Ratio	h_{FE}	$I_C=10\text{mA}, V_{CE}=2\text{V}^*$ $I_C=1\text{A}, V_{CE}=2\text{V}^*$ $I_C=5\text{A}, V_{CE}=2\text{V}^*$ $I_C=10\text{A}, V_{CE}=2\text{V}^*$	290 270 130 40	440 450 220 55	1200	
Transitional frequency	f_T	$I_C=50\text{mA}, V_{CE}=10\text{V} f=100\text{MHz}$		155		MHz
Output capacitance	C_{obo}	$V_{CB}=10\text{V}, f=1\text{MHz}$		27	40	pF
Turn-on time	$t_{(on)}$	$I_C=3\text{A}, V_{CC}=10\text{V}$		220		ns
Turn-off time	$t_{(off)}$	$I_{B1}=I_{B2}=30\text{mA}$		540		ns

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