

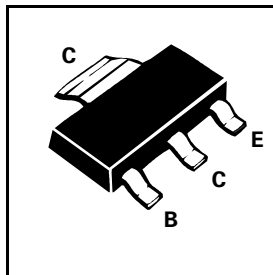
SOT 223 NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ISSUE 1 - APRIL 1997

FZT1049A

FEATURES

- * $V_{CEO} = 30V$
- * 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.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	20	A
Continuous Collector Current	I_C	5	A
Base Current	I_B	500	mA
Power Dissipation at $T_{amb}=25^{\circ}C$ †	P_{tot}	2.5	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

† The power which can be dissipated assuming the device is mounted in typical manner on a PCB with copper equal to 2 inches x 2 inches.

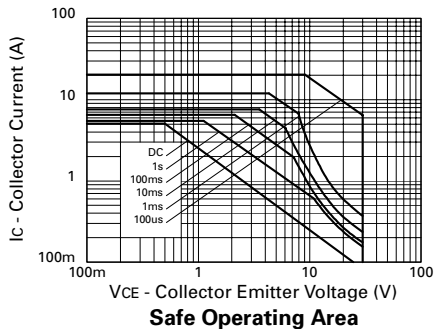
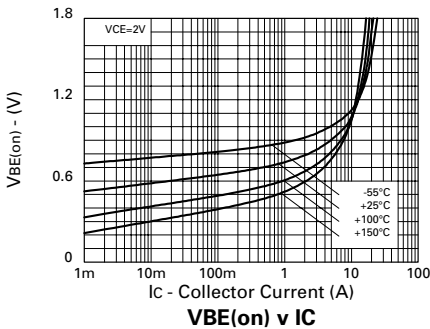
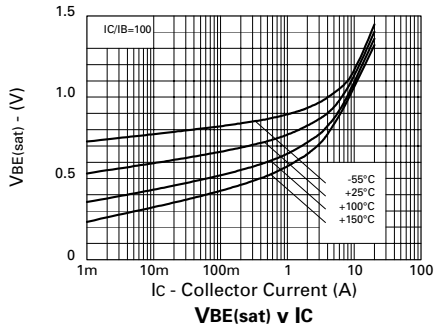
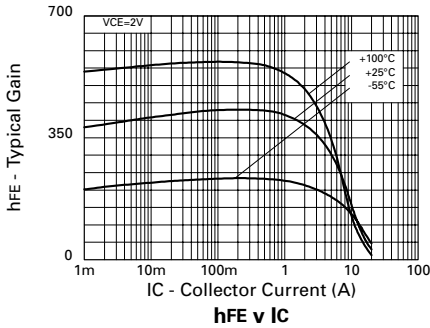
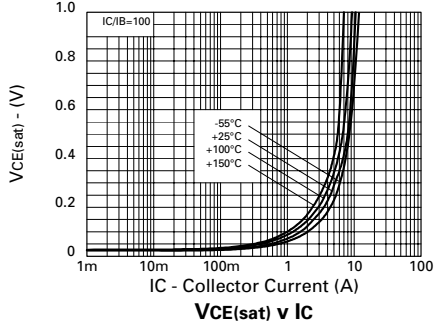
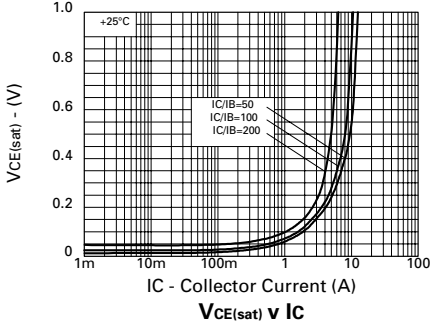
FZT1049A

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	80	130		V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	V_{CES}	80	130		V	$I_C=100\mu\text{A}^*$
Collector-Emitter Breakdown Voltage	V_{CEO}	30	40		V	$I_C=10\text{mA}$
Collector-Emitter Breakdown Voltage	V_{CEV}	80	130		V	$I_C=100\mu\text{A}, V_{EB}=1\text{V}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	9		V	$I_E=100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}		0.3	10	nA	$V_{CB}=35\text{V}$
Emitter Cut-Off Current	I_{EBO}		0.3	10	nA	$V_{EB}=4\text{V}$
Collector Emitter Cut-Off Current	I_{CES}		0.3	10	nA	$V_{CES}=35\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		35 70 180 250	60 100 250 330	mV mV mV mV	$I_C=0.5\text{A}, I_B=10\text{mA}^*$ $I_C=1\text{A}, I_B=10\text{mA}^*$ $I_C=3\text{A}, I_B=30\text{mA}^*$ $I_C=5\text{A}, I_B=50\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		950	1050	mV	$I_C=5\text{A}, I_B=50\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		900	1000	mV	$I_C=5\text{A}, V_{CE}=2\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	280 300 300 180 40	440 450 450 280 80	1200		$I_C=10\text{mA}, V_{CE}=2\text{V}^*$ $I_C=0.5\text{A}, V_{CE}=2\text{V}^*$ $I_C=1\text{A}, V_{CE}=2\text{V}^*$ $I_C=5\text{A}, V_{CE}=2\text{V}^*$ $I_C=20\text{A}, V_{CE}=2\text{V}^*$
Transition Frequency	f_T		180		MHz	$I_C=50\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$
Output Capacitance	C_{obo}		45	60	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$
Turn-on Time	t_{on}		125		ns	$I_C=4\text{A}, I_B=40\text{mA}, V_{CC}=10\text{V}$
Turn-off Time	t_{off}		380		ns	

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

TYPICAL CHARACTERISTICS





LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.