

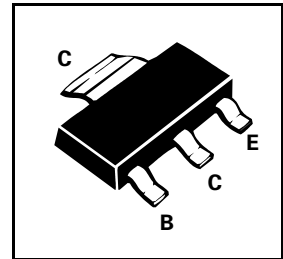
# SOT223 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

ISSUE 3 – NOVEMBER 1995

## FZT493

COMPLEMENTARY TYPE – FZT593

PARTMARKING DETAIL – FZT493



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	120	V
Collector-Emitter Voltage	$V_{CEO}$	100	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Peak Pulse Current	$I_{CM}$	2	A
Continuous Collector Current	$I_C$	1	A
Base Current	$I_B$	200	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	2	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^\circ\text{C}$

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	120			V	$I_C=100\mu\text{A}$
	$V_{(BR)CEO}$	100			V	$I_C=10\text{mA}^*$
	$V_{(BR)EBO}$	5			V	$I_E=100\mu\text{A}$
Cut-Off Currents	$I_{CBO}$			100	nA	$V_{CB}=100\text{V}$
	$I_{EBO}$			100	nA	$V_{EB}=4\text{V}$
	$I_{CES}$			100	nA	$V_{CES}=100\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.3 0.6	V	$I_C=500\text{mA}, I_B=50\text{mA}^*$ $I_C=1\text{A}, I_B=100\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.15	V	$I_C=1\text{A}, I_B=100\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			1.0	V	$I_C=1\text{A}, V_{CE}=10\text{V}^*$
Static Forward Current	$h_{FE}$	100 100 80 30		300		$I_C=1\text{mA}, V_{CE}=10\text{V}$ $I_C=250\text{mA}, V_{CE}=10\text{V}^*$ $I_C=500\text{mA}, V_{CE}=10\text{V}^*$ $I_C=1\text{A}, V_{CE}=10\text{V}^*$
Transition Frequency	$f_T$	150			MHz	$I_C=50\text{mA}, V_{CE}=10\text{V}$ , $f=100\text{MHz}$
Output Capacitance	$C_{obo}$			10	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$

\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$   
For typical Characteristics graphs see FMMT493 datasheet