

NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

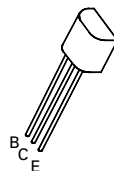
FXT653

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FEATURES

- * 100 Volt V_{CE0}
- * 2 Amps continuous current
- * Low saturation voltage
- * $P_{tot} = 1$ Watt

REFER TO ZTX653 FOR GRAPHS



**E-Line
TO92 Compatible**

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}	6	A
Continuous Collector Current	I_C	2	A
Power Dissipation at $T_{amb}=25^\circ\text{C}$	P_{tot}	1	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200	$^\circ\text{C}$

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	120			V	$I_C=100\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	100			V	$I_C=10\text{mA}, I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu\text{A}, I_C=0$
Collector Cut-Off Current	I_{CBO}			0.1 10	μA	$V_{CB}=100\text{V}, I_E=0$ $V_{CB}=100\text{V}, T_{amb}=100^\circ\text{C}$
Emitter Cut-Off Current	I_{EBO}			0.1	μA	$V_{EB}=4\text{V}, I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.13 0.23	0.3 0.5	V	$I_C=1\text{A}, I_B=100\text{mA}^*$ $I_C=2\text{A}, I_B=200\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.9	1.25	V	$I_C=1\text{A}, I_B=100\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.8	1	V	$I_C=1\text{A}, V_{CE}=2\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	70 100 55 25	200 200 110 55	300		$I_C=50\text{mA}, V_{CE}=2\text{V}^*$ $I_C=500\text{mA}, V_{CE}=2\text{V}^*$ $I_C=1\text{A}, V_{CE}=2\text{V}^*$ $I_C=2\text{A}, V_{CE}=2\text{V}^*$
Transition Frequency	f_T	140	175		MHz	$I_C=100\text{mA}, V_{CE}=5\text{V}$ $f=100\text{MHz}$
Output Capacitance	C_{obo}			30	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$

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