

NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

FXT649

ISSUE 1 - FEB 94

FEATURES

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

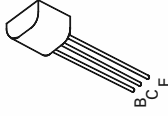
APPLICATIONS

- * Motor driver

REFER TO ZTX649 FOR GRAPHS

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	35	V
Collector-Emitter Voltage	V_{CEO}	25	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 $T_{amb}=25^{\circ}C$	P_{tot}	1	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200	$^{\circ}C$



E-Line
TO92 Compatible

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	35			V	$I_C = 100\mu A, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25			V	$I_C = 10mA, I_B = 0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E = 100\mu A, I_C = 0$
Collector Cut-Off Current	I_{CBO}			0.1 10	μA	$V_{CE} = 30V, I_E = 0$ $V_{CE} = 30V, T_{amb} = 100^{\circ}C$
Emitter Cut-Off Current	I_{EBO}			0.1	μA	$V_{EB} = 4V, I_C = 0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.12 0.23	0.3 0.5	V	$I_C = 1A, I_B = 100mA^*$ $I_C = 2A, I_B = 200mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.9	1.25	V	$I_C = 1A, I_B = 100mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.8	1	V	$I_C = 1A, V_{CE} = 2V^*$
Static Forward Current Transfer Ratio	h_{FE}	70 100 75 15	200 200 150 50	300		$I_C = 50mA, V_{CE} = 2V^*$ $I_C = 1A, V_{CE} = 2V^*$ $I_C = 2A, V_{CE} = 2V^*$ $I_C = 6A, V_{CE} = 2V^*$
Transition Frequency	f_T	150			MHz	$I_C = 100mA, V_{CE} = 5V$ $f = 100MHz$
Output Capacitance	C_{obo}			50	pF	$V_{CE} = 10V, f = 1MHz$

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