

NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

FXT601B

ISSUE 1 – MARCH 94

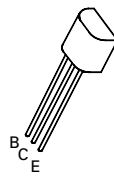
FEATURES

- * 160 Volt V_{CE0}
- * Gain of 5K at $I_C=1$ Amp
- * $P_{tot} = 1$ Watt

APPLICATIONS

- * Lamp, solenoid and relay drivers
- * Replacement of TO126 and TO220 packages

REFER TO ZTX601B FOR GRAPHS



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	10	V
Peak Pulse Current	I_{CM}	4	A
Continuous Collector Current	I_C	1	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	$V_{(BR)CBO}$	180			V	$I_C=100\mu\text{A}$, $I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	160			V	$I_C=10\text{mA}$, $I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10			V	$I_E=100\mu\text{A}$, $I_C=0$
Collector Cut-Off Current	I_{CBO}			0.01 10	μA μA	$V_{CB}=160\text{V}$ $V_{CB}=160\text{V}$, $T_{amb}=100^\circ\text{C}$
Emitter Cut-Off Current	I_{EBO}			0.1	μA	$V_{EB}=8\text{V}$, $I_C=0$
Collector-Emitter Cut-Off Current	I_{CES}			10	μA	$V_{CES}=160\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.75 0.85	1.1 1.2	V V	$I_C=0.5\text{A}$, $I_B=5\text{mA}^*$ $I_C=1\text{A}$, $I_B=10\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.7	1.9	V	$I_C=1\text{A}$, $I_B=10\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.5	1.7	V	$I_C=1\text{A}$, $V_{CE}=5\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	5K 10K 5K	10K 20K 10K	100K		$I_C=50\text{mA}$, $V_{CE}=10\text{V}^*$ $I_C=0.5\text{A}$, $V_{CE}=10\text{V}^*$ $I_C=1\text{A}$, $V_{CE}=10\text{V}^*$
Transition Frequency	f_T	150	250		MHz	$I_C=100\text{mA}$, $V_{CE}=10\text{V}$ $f=20\text{MHz}$

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



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