NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

FXT601B

ISSUE 1 – MARCH 94

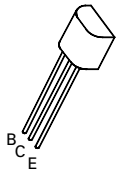
FEATURES

* 160 Volt V_{CEO}
* 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°C	P_{tot}	1	W
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +200	°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

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

*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%