

ZTX792A

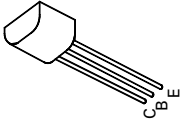
PNP SILICON PLANAR MEDIUM POWER
HIGH GAIN TRANSISTOR

ISSUE 2 – APRIL 94

ZTX792A

FEATURES

- * 70 Volt V_{CE0}
 - * Gain of 400 at $I_C=3$ Amps
 - * Very low saturation voltage
- APPLICATIONS
- * Darlington replacement
 - * Flash gun converters
 - * Battery powered circuits
 - * Motor drivers



E-Line
TO92 Compatible

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f_T	100			MHz	$I_C=50\text{mA}$, $V_{CE}=5\text{V}$ $f=50\text{MHz}$
Input Capacitance	C_{ibo}		225		pF	$V_{EB}=-0.5\text{V}$, $f=1\text{MHz}$
Output Capacitance	C_{obo}		22		pF	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$
Switching Times	t_{on} t_{off}		35 750		ns	$I_C=500\text{mA}$, $I_{BF}=50\text{mA}$ $I_{B2}=50\text{mA}$, $V_{CC}=-10\text{V}$

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

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance: Junction to Ambient ₁ Junction to Ambient ₂ Junction to Case	$R_{th(j-amb)1}$ $R_{th(j-amb)2}$ $R_{th(j-case)}$	175 116 70	$^{\circ}\text{C/W}$ $^{\circ}\text{C/W}$ $^{\circ}\text{C/W}$

† Device mounted on P.C.B. with copper equal to 1 sq. Inch minimum.

ABSOLUTE MAXIMUM RATINGS.

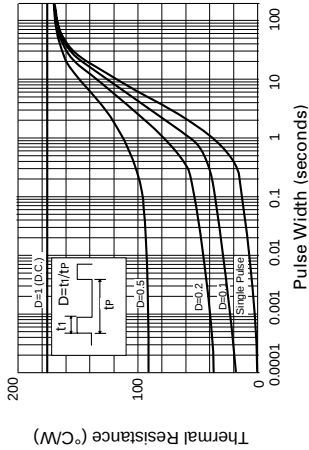
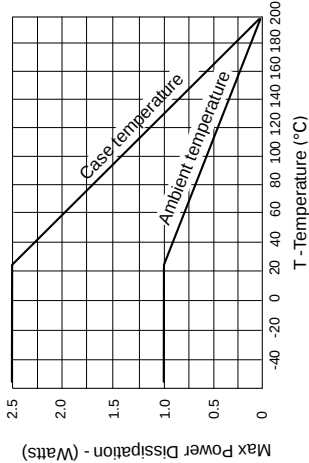
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-75	V
Collector-Emitter Voltage	V_{CEO}	-70	V
Emitter-Base Voltage	V_{EBO}	-5	V
Peak Pulse Current	I_{CM}	-4	A
Continuous Collector Current	I_C	-2	A
Practical Power Dissipation*	P_{totp}	1.5	W
Power Dissipation at $T_{amb}=25^{\circ}\text{C}$ derate above 25°C	P_{tot}	1 5.7	W mW/ $^{\circ}\text{C}$
Operating and Storage Temperature Range	T_j, T_{sg}	-55 to +200	$^{\circ}\text{C}$

* The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 1 inch square minimum

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-75			V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-70			V	$I_C=10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E=100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}			-0.1	μA	$V_{CB}=-40\text{V}$
Emitter Cut-Off Current	I_{EBO}			-0.1	μA	$V_{EB}=-4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.45 -0.5 -0.5	V V V	$I_C=500\text{mA}$, $I_B=5\text{mA}^*$ $I_C=1\text{A}$, $I_B=25\text{mA}^*$ $I_C=2\text{A}$, $I_B=200\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-0.95	V	$I_C=1\text{A}$, $I_B=25\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.75		V	$I_C=1\text{A}$, $V_{CE}=2\text{V}^*$
Static Forward Current Transfer	h_{FE}	300 250 200		800		$I_C=10\text{mA}$, $V_{CE}=2\text{V}^*$ $I_C=500\text{mA}$, $V_{CE}=2\text{V}^*$ $I_C=1\text{A}$, $V_{CE}=2\text{V}^*$

3-282



Derating curve

Maximum transient thermal impedance

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TYPICAL CHARACTERISTICS

