

ZTX792A

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

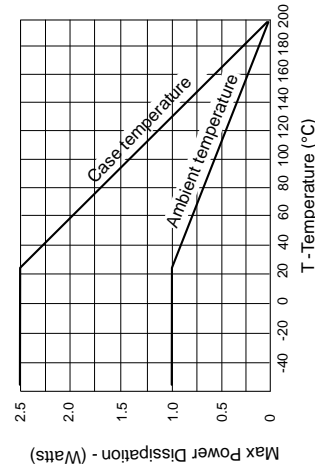
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f_T	100			MHz	$I_C = 50\text{mA}$, $V_{CE} = 5\text{V}$, $f = 50\text{MHz}$
Input Capacitance	C_{ibo}		225		pF	$V_{EB} = 0.5\text{V}$, $f = 1\text{MHz}$
Output Capacitance	C_{obo}		22		pF	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$
Switching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

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

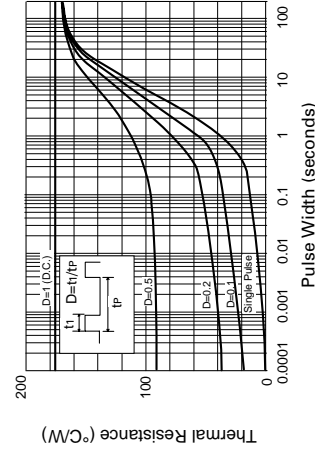
THERMAL CHARACTERISTICS

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

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



Derating curve



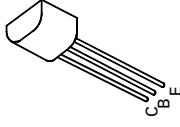
Maximum transient thermal impedance

PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ISSUE 2 – APRIL 94

FEATURES

- * 70 Volt V_{CEO}
 - * 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

ZTX792A

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	W
	T_f, T_{sg}	5.7	$\text{mW}/^{\circ}\text{C}$
Operating and Storage Temperature Range		-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	V	$I_C = 500\text{mA}$, $I_B = 5\text{mA}^*$
				-0.5	V	$I_C = 1\text{A}$, $I_B = 25\text{mA}^*$
				-0.5	V	$I_C = 2\text{A}$, $I_B = 200\text{mA}^*$
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		800		$I_C = 10\text{mA}$, $V_{CE} = 2\text{V}^*$
		250				$I_C = 500\text{mA}$, $V_{CE} = 2\text{V}^*$
		200				$I_C = 1\text{A}$, $V_{CE} = 2\text{V}^*$

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PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

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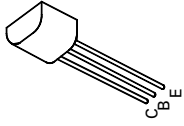
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FEATURES

- * 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



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

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

*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	$R_{th(j-amb)1}$	175	$^{\circ}C/W$
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ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
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Peak Pulse Current	I_{CM}	-4	A
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Practical Power Dissipation*	P_{totp}	1.5	W
Power Dissipation at $T_{amb}=25^{\circ}C$ derate above $25^{\circ}C$	P_{tot}	1	W
	T_f, T_{sg}	5.7	mW/ $^{\circ}C$
Operating and Storage Temperature Range		-55 to +200	$^{\circ}C$

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

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

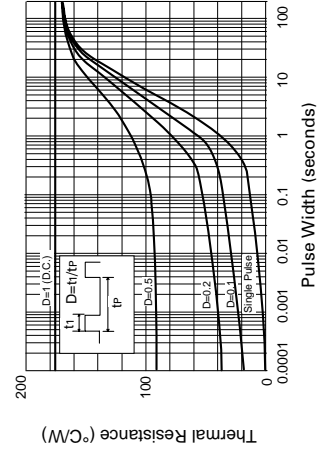
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	t_{off}		750		ns	

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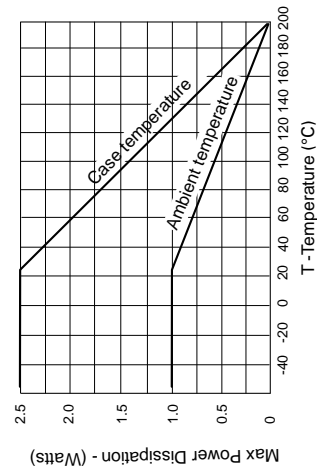
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PARAMETER	SYMBOL	MAX.	UNIT
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Maximum transient thermal impedance



Derating curve

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TYPICAL CHARACTERISTICS

