

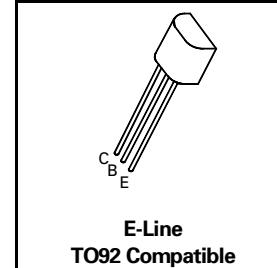
# PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ISSUE 1 – APRIL 94

## FEATURES

- \* 140 Volt  $V_{CEO}$
- \* Gain of 250 at  $I_C=0.2$  Amps
- \* Very low saturation voltage

**ZTX795A**



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-140	V
Collector-Emitter Voltage	$V_{CEO}$	-140	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-1	A
Continuous Collector Current	$I_C$	-0.5	A
Practical Power Dissipation*	$P_{totp}$	1.5	W
Power Dissipation at $T_{amb}=25^\circ\text{C}$ derate above $25^\circ\text{C}$	$P_{tot}$	1 5.7	W $\text{mW}/^\circ\text{C}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	-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	$V_{(BR)CBO}$	-140			V	$I_C=-100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-140			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	$\mu\text{A}$	$V_{CB}=-100\text{V}$
Emitter Cut-Off Current	$I_{EBO}$			-0.1	$\mu\text{A}$	$V_{EB}=-4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(\text{sat})}$			-0.3 -0.3 -0.25	V V V	$I_C=100\text{mA}, I_B=1\text{mA}^*$ $I_C=200\text{mA}, I_B=5\text{mA}^*$ $I_C=500\text{mA}, I_B=50\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(\text{sat})}$			-0.95	V	$I_C=500\text{mA}, I_B=50\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(\text{on})}$		-0.75		V	$I_C=500\text{mA}, V_{CE}=-2\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	300 250 100		800		$I_C=10\text{mA}, V_{CE}=-2\text{V}^*$ $I_C=200\text{mA}, V_{CE}=-2\text{V}^*$ $I_C=300\text{mA}, V_{CE}=-2\text{V}^*$

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

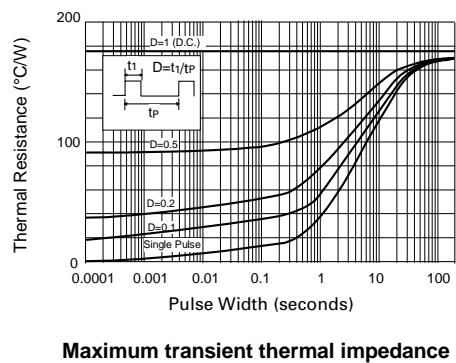
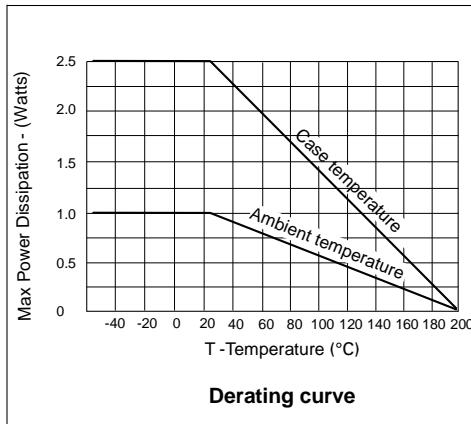
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	$f_T$	100			MHz	$I_C=50mA, V_{CE}=5V$ $f=50MHz$
Input Capacitance	$C_{ibo}$		225		pF	$V_{EB}=-0.5V, f=1MHz$
Output Capacitance	$C_{obo}$		15		pF	$V_{CB}=-10V, f=1MHz$
Switching Times	$t_{on}$ $t_{off}$		100 1900		ns ns	$I_C=100mA, I_{B1}=10mA$ $I_{B2}=10mA, V_{CC}=50V$

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

## THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance Junction to Ambient <sub>1</sub>	$R_{th(j-amb)1}$	175	°C/W
Junction to Ambient <sub>2</sub>	$R_{th(j-amb)2}$ <sup>†</sup>	116	°C/W
Junction to Case	$R_{th(j-case)}$	70	°C/W

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



## TYPICAL CHARACTERISTICS

