

**ZTX796A**

**PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR**

**Features**

- 200 Volt  $V_{CE0}$
- Gain of 250 at  $I_C=0.3$  Amps
- Very low saturation voltage

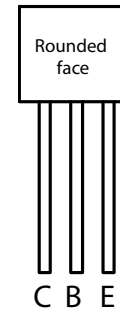
**Mechanical Data**

- Case: E-Line



Bottom View

E-Line  
TO92 Compatible



Pin Configuration

**Maximum Ratings**

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	-200	V
Collector-Emitter Voltage	$V_{CEO}$	-200	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-1	A
Continuous Collector Current	$I_C$	-0.5	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Practical Power Dissipation (Note 1)	$P_{totp}$	1.5	W
Power Dissipation $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_{tot}$	1 5.7	W mW / $^\circ\text{C}$
Thermal Resistance Junction to Ambient <sub>1</sub> (Note 2)	$R_{\theta JA1}$	175	$^\circ\text{C/W}$
Thermal Resistance Junction to Ambient <sub>2</sub> (Note 2)	$R_{\theta JA2}$	116	$^\circ\text{C/W}$
Thermal Resistance Junction to Case	$R_{\theta JC}$	70	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +200	$^\circ\text{C}$

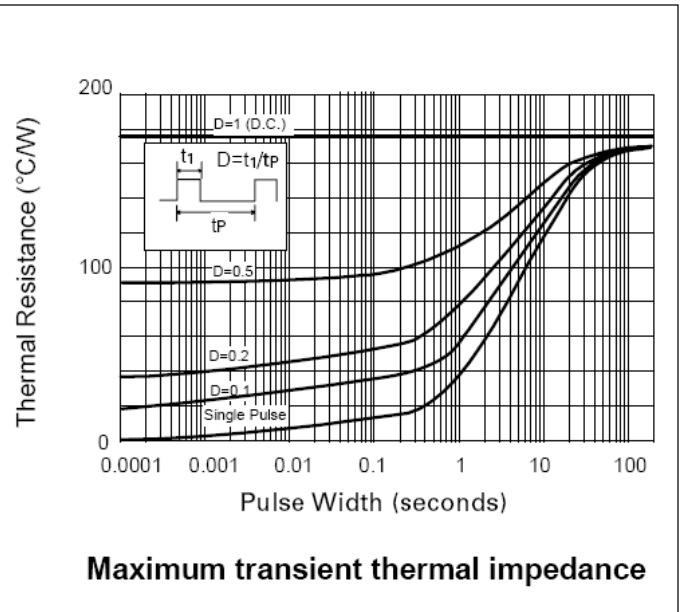
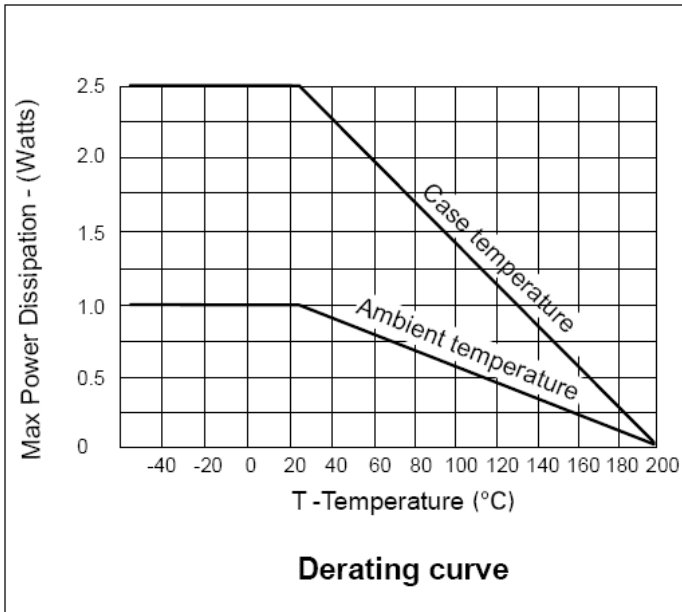
Notes: 1. The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 1 inch square minimum  
2. Device mounted on P.C.B. with copper equal to 1 sq. Inch minimum.

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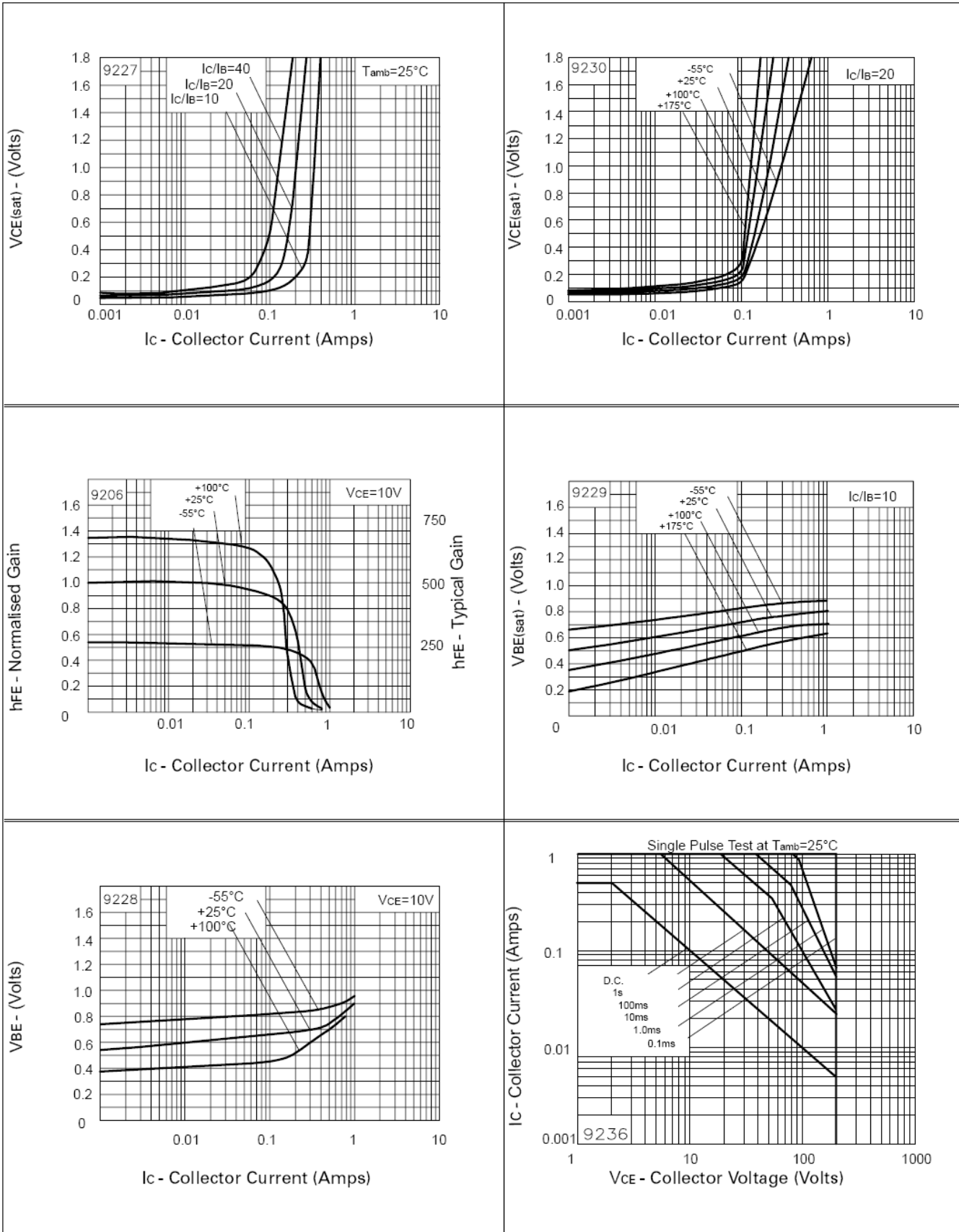
**Electrical Characteristics** @ $T_A = 25^\circ\text{C}$  unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-200	-	-	V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage (Note 3)	$V_{(BR)CEO}$	-200	-	-	V	$I_C = -10\text{mA}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-	V	$I_E = -100\mu\text{A}$
Collector Cutoff Current	$I_{CBO}$	-	-	-0.1	$\mu\text{A}$	$V_{CB} = -150\text{V}$
Emitter Cutoff Current	$I_{EBO}$	-	-	-0.1	$\mu\text{A}$	$V_{EB} = -4\text{V}$
Collector-Emitter Saturation Voltage (Note 3)	$V_{CE(sat)}$	-	-	-0.2	mV	$I_C = -50\text{mA}, I_B = -2\text{mA}$
				-0.3	mV	$I_C = -100\text{mA}, I_B = -5\text{mA}$
Base-Emitter Saturation Voltage (Note 3)	$V_{BE(sat)}$	-	-	-0.95	mV	$I_C = -200\text{mA}, I_B = -20\text{mA}$
Base-Emitter Turn-On Voltage (Note 3)	$V_{BE(on)}$	-	-0.67	-	mV	$I_C = -200\text{mA}, V_{CE} = -10\text{V}$
Static Forward Current Transfer Ratio (Note 3)	$h_{FE}$	300	-	800		$I_C = -10\text{mA}, V_{CE} = -5\text{V}$
		300				$I_C = -1\text{A}, V_{CE} = -5\text{V}$
		250				$I_C = -2\text{A}, V_{CE} = -5\text{V}$
		100				$I_C = -5\text{A}, V_{CE} = -5\text{V}$
Transition Frequency	$f_T$	100	-	-	MHz	$V_{CE} = -5\text{V}, I_C = -50\text{mA}$ $f = 50\text{MHz}$
Input Capacitance	$C_{ibo}$	-	225	-	pF	$V_{EB} = -0.5\text{V}, f = 1\text{MHz}$
Output Capacitance	$C_{obo}$	-	12	-	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$
Switching Times	$t_{on}$	-	100	-	ns	$V_{CC} = -50\text{V}, I_C = -100\text{mA}$
	$t_{off}$	-	3200	-	ns	$I_{B1} = -I_{B2} = -10\text{mA}$

Notes: 3. Measured under pulsed conditions. Pulse width = 300  $\mu\text{s}$ . Duty cycle  $\leq 2\%$



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