

**ZTX796A**

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

**Features**

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

**Mechanical Data**

- Case: E-Line

E-Line  
TO92 Compatible



Bottom View

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**

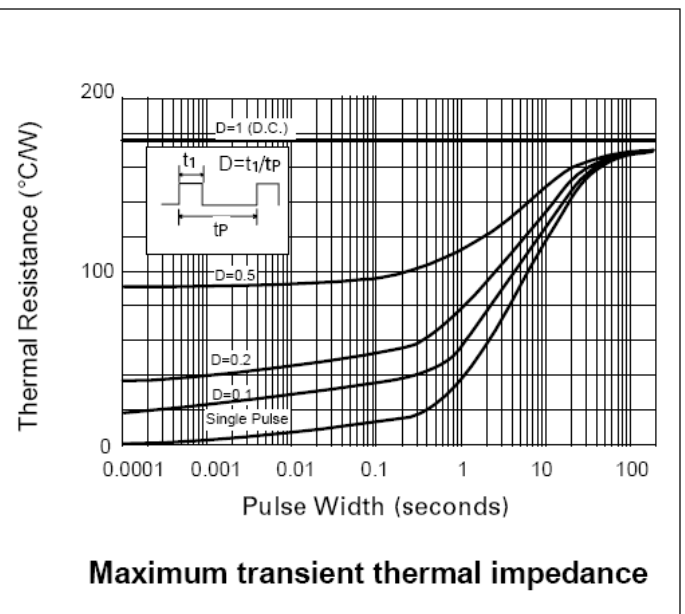
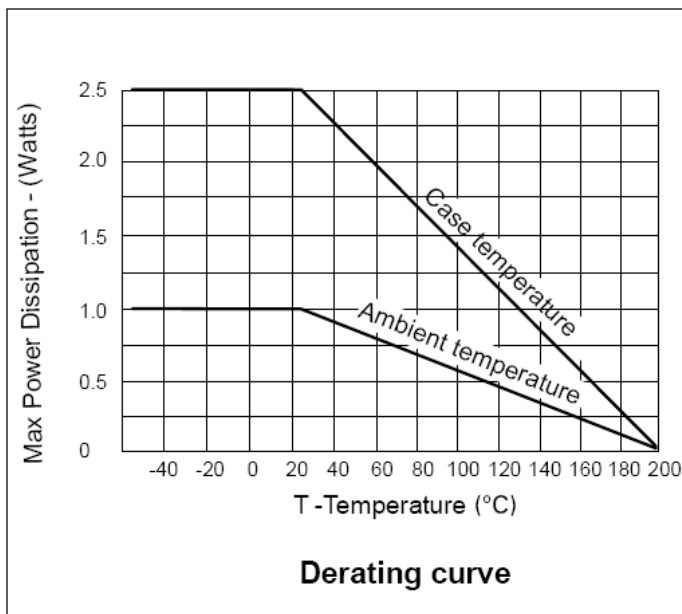
Characteristic	Symbol	Value	Unit
Practical Power Dissipation (Note 1)	$P_{totp}$	1.5	W
Power Dissipation $T_A = 25^\circ\text{C}$	$P_{tot}$	1	W
Derate above $25^\circ\text{C}$		5.7	mW / $^\circ\text{C}$
Thermal Resistance Junction to Ambient <sub>1</sub> (Note 2)	$R_{\theta JA1}$	175	$^\circ\text{C/W}$
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<sub>A</sub> = 25°C unless otherwise specified

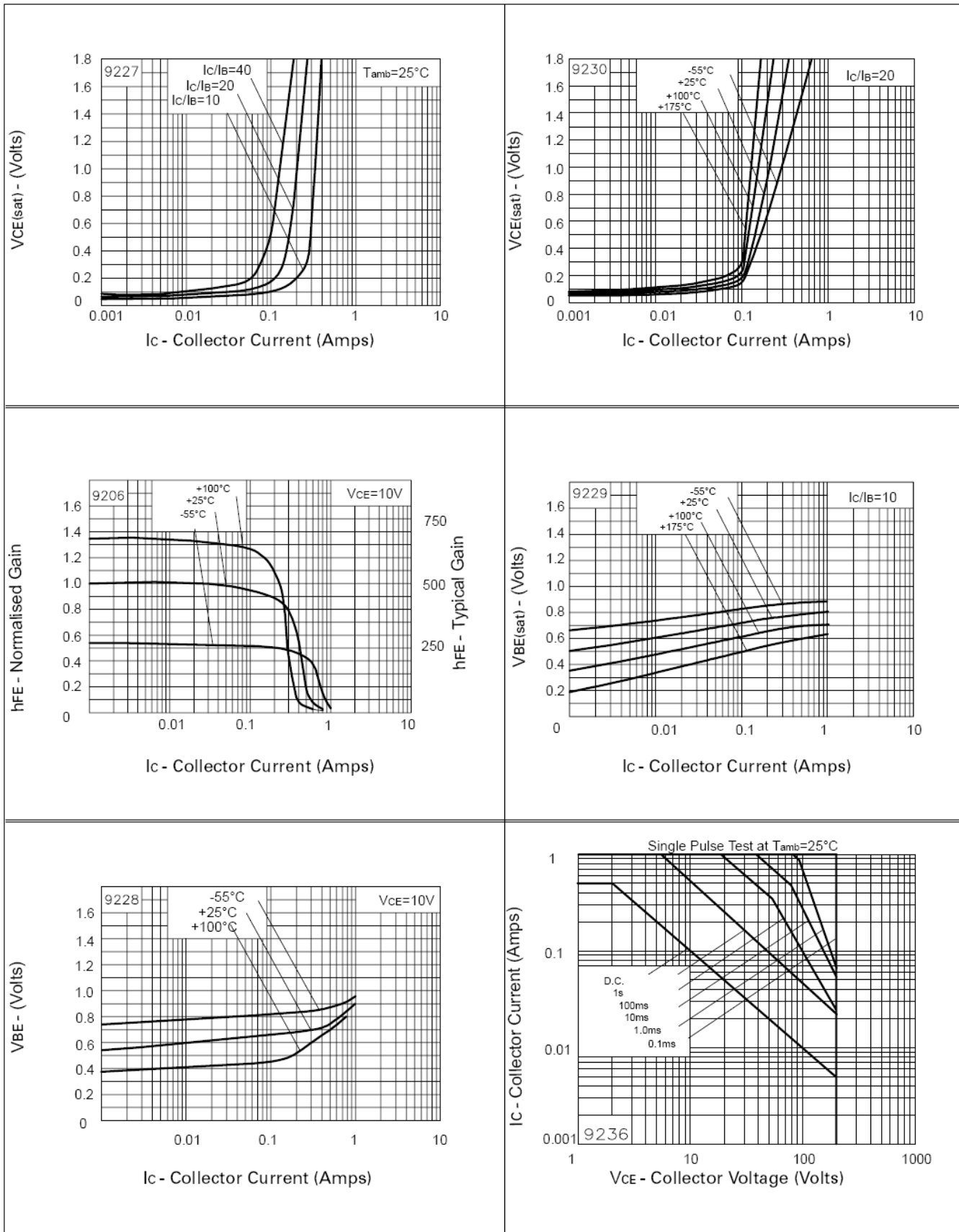
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	-200	-	-	V	I <sub>C</sub> = -100μA
Collector-Emitter Breakdown Voltage (Note 3)	V <sub>(BR)CEO</sub>	-200	-	-	V	I <sub>C</sub> = -10mA
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	-5	-	-	V	I <sub>E</sub> = -100μA
Collector Cutoff Current	I <sub>CBO</sub>	-	-	-0.1	μA	V <sub>CB</sub> = -150V
Emitter Cutoff Current	I <sub>EBO</sub>	-	-	-0.1	μA	V <sub>EB</sub> = -4V
Collector-Emitter Saturation Voltage (Note 3)	V <sub>CE(sat)</sub>	-	-	-0.2	mV	I <sub>C</sub> = -50mA, I <sub>B</sub> = -2mA
				-0.3	mV	I <sub>C</sub> = -100mA, I <sub>B</sub> = -5mA
				-0.3	mV	I <sub>C</sub> = -200mA, I <sub>B</sub> = -20mA
Base-Emitter Saturation Voltage (Note 3)	V <sub>BE(sat)</sub>	-	-	-0.95	mV	I <sub>C</sub> = -200mA, I <sub>B</sub> = -20mA
Base-Emitter Turn-On Voltage (Note 3)	V <sub>BE(on)</sub>	-	-0.67		mV	I <sub>C</sub> = -200mA, V <sub>CE</sub> = -10V
Static Forward Current Transfer Ratio (Note 3)	h <sub>FE</sub>	300	-	800		I <sub>C</sub> = -10mA, V <sub>CE</sub> = -5V
		300				I <sub>C</sub> = -1A, V <sub>CE</sub> = -5V
		250				I <sub>C</sub> = -2A, V <sub>CE</sub> = -5V
		100				I <sub>C</sub> = -5A, V <sub>CE</sub> = -5V
Transition Frequency	f <sub>T</sub>	100	-	-	MHz	V <sub>CE</sub> = -5V, I <sub>C</sub> = -50mA f = 50MHz
Input Capacitance	C <sub>ibo</sub>	-	225	-	pF	V <sub>EB</sub> = -0.5V, f = 1MHz
Output Capacitance	C <sub>obo</sub>	-	12	-	pF	V <sub>CB</sub> = -10V, f = 1MHz
Switching Times	t <sub>on</sub>	-	100	-	ns	V <sub>CC</sub> = -50V, I <sub>C</sub> = -100mA
	t <sub>off</sub>	-	3200	-	ns	I <sub>B1</sub> = -I <sub>B2</sub> = -10mA

Notes: 3. Measured under pulsed conditions. Pulse width = 300 μs. Duty cycle ≤ 2%



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