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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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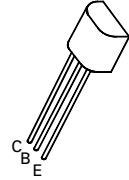
# PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

PROVISIONAL DATASHEET ISSUE 2 – SEPTEMBER 94

## ZTX788A

### FEATURES

- \* 15 Volt  $V_{CE0}$
- \* Gain of 200 at  $I_C=2$  Amps
- \* Very low saturation voltage



**E-Line**  
**TO92 Compatible**

### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-20	V
Collector-Emitter Voltage	$V_{CEO}$	-15	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-10	A
Continuous Collector Current	$I_C$	-3	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 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	$V_{(BR)CBO}$	-20	-30		V	$I_C=-100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-15	-20		V	$I_C=-10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-8.5		V	$I_E=-100\mu\text{A}$
Collector Cut-Off Current	$I_{CBO}$			-0.1 -10	$\mu\text{A}$ $\mu\text{A}$	$V_{CB}=-10\text{V}$ $V_{CB}=-10\text{V}, T_{amb}=100^\circ\text{C}$
Emitter Cut-Off Current	$I_{EBO}$			-0.1	$\mu\text{A}$	$V_{EB}=-4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.025 -0.25 -0.28	-0.035 -0.32 -0.33	V V V	$I_C=0.1\text{A}, I_B=2\text{mA}^*$ $I_C=2\text{A}, I_B=20\text{mA}^*$ $I_C=3\text{A}, I_B=200\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.85	-1.0	V	$I_C=2\text{A}, I_B=20\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.8		V	$I_C=2\text{A}, V_{CE}=-3\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	300 250 200 80		800		$I_C=10\text{mA}, V_{CE}=1\text{V}^*$ $I_C=1\text{A}, V_{CE}=1\text{V}^*$ $I_C=2\text{A}, V_{CE}=1\text{V}^*$ $I_C=10\text{A}, V_{CE}=2\text{V}^*$

# ZTX788A

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	$f_T$	100	150		MHz	$I_C = 50\text{mA}$ , $V_{CE} = 5\text{V}$ $f = 50\text{MHz}$
Output Capacitance	$C_{obo}$		30	60	pF	$V_{CE} = 10\text{V}$ , $f = 1\text{MHz}$
Switching Times	$t_{on}$ $t_{off}$		40 500		ns ns	$I_C = 500\text{mA}$ , $I_{B1} = 50\text{mA}$ $I_{B2} = 50\text{mA}$ , $V_{CC} = 10\text{V}$

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

## THERMAL CHARACTERISTICS

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

$\dagger$  Device mounted on P.C.B. with copper equal to 1 sq. Inch minimum.

