

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

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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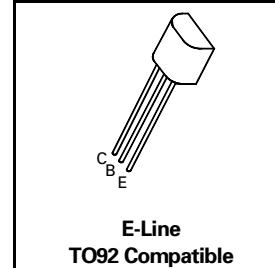
PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

PROVISIONAL DATASHEET ISSUE 2 – SEPTEMBER 94

FEATURES

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

ZTX788A



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 $T_{amb}=25^\circ C$ derate above $25^\circ C$	P_{tot}	1 5.7	W mW/ $^\circ C$
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200	$^\circ C$

*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 $T_{amb}=25^\circ C$)

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

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

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

*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	$R_{th(j-amb)1}$	175	°C/W
Junction to Ambient ₂	$R_{th(j-amb)2}$ †	116	°C/W
Junction to Case	$R_{th(j-case)}$	70	°C/W

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

