



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!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



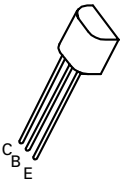
PNP SILICON PLANAR MEDIUM POWER
HIGH GAIN TRANSISTOR

ISSUE 1 - January 1997

ZTX1149A

FEATURES

- * $V_{CEO} = -25V$
- * 3 Amp Continuous Current
- * 10 Amp Pulse Current
- * Low Saturation Voltage
- * High Gain



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	ZTX1149A	UNIT
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-25	V
Emitter-Base Voltage	V_{EBO}	-5	V
Peak Pulse Current	I_{CM}	-10	A
Continuous Collector Current	I_C	-3	A
Base Current	I_B	-500	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	1	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200	$^{\circ}C$

ZTX1149A

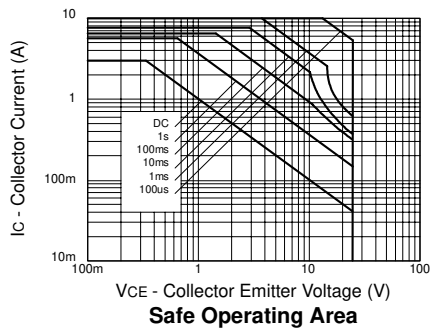
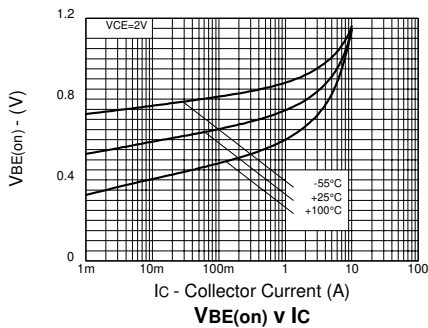
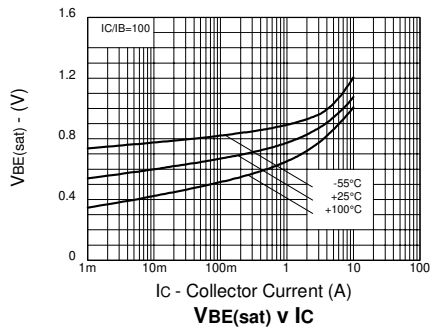
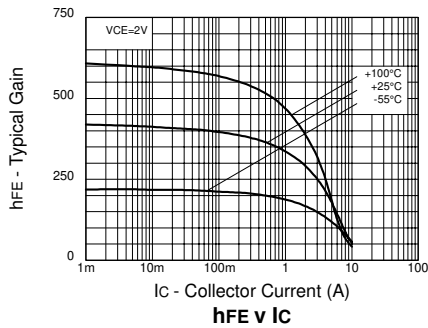
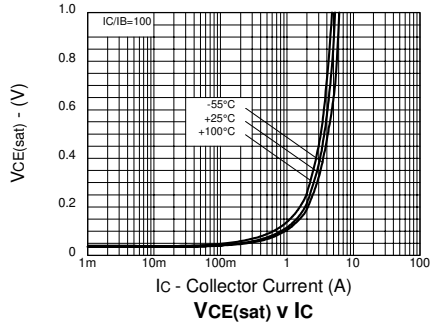
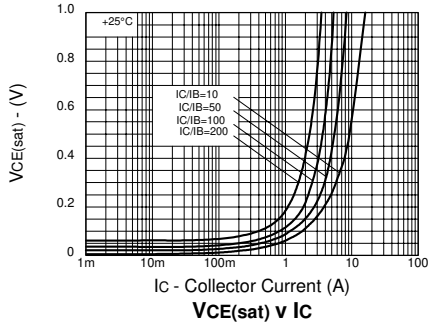
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL				UNIT	CONDITIONS.
		MIN.	TYP.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-30	-70		V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CES}$	-25	-60		V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-25	-60		V	$I_C = -10\text{mA}^*$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEV}$	-25	-60		V	$I_C = -100\mu\text{A}$, $V_{EB} = +1\text{V}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-8.5		V	$I_E = -100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}		-0.3	-100	nA	$V_{CB} = -24\text{V}$
Emitter Cut-Off Current	I_{EBO}		-0.3	-100	nA	$V_{EB} = -4\text{V}$
Collector Emitter Cut-Off Current	I_{CES}		-0.3	-100	nA	$V_{CE} = -20\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-45	-80	mV	$I_C = -0.1\text{A}$, $I_B = -1.0\text{mA}^*$
			-100	-170	mV	$I_C = -0.5\text{A}$, $I_B = -3\text{mA}^*$
			-140	-240	mV	$I_C = -1\text{A}$, $I_B = -7\text{mA}^*$
			-170	-260	mV	$I_C = -2\text{A}$, $I_B = -30\text{mA}^*$
			-200	-300	mV	$I_C = -3\text{A}$, $I_B = -70\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-870	-1000	mV	$I_C = -3\text{A}$, $I_B = -70\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-800	-900	mV	$I_C = -3\text{A}$, $V_{CE} = -2\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	270 250 195 115	450 400 320 190 50	800		$I_C = -10\text{mA}$, $V_{CE} = -2\text{V}^*$ $I_C = -0.5\text{A}$, $V_{CE} = -2\text{V}^*$ $I_C = -2\text{A}$, $V_{CE} = -2\text{V}^*$ $I_C = -5\text{A}$, $V_{CE} = -2\text{V}^*$ $I_C = -10\text{A}$, $V_{CE} = -2\text{V}^*$
Transition Frequency	f_T		135		MHz	$I_C = -50\text{mA}$, $V_{CE} = -10\text{V}$ $f = 50\text{MHz}$
Output Capacitance	C_{cb}		50		pF	$V_{CB} = -10\text{V}$, $f = 1\text{MHz}$
Switching Times	t_{on}		150		ns	$I_C = -4\text{A}$, $I_B = -40\text{mA}$, $V_{CC} = -10\text{V}$
	t_{off}		270		ns	$I_C = -4\text{A}$, $I_B = \pm 40\text{mA}$, $V_{CC} = -10\text{V}$

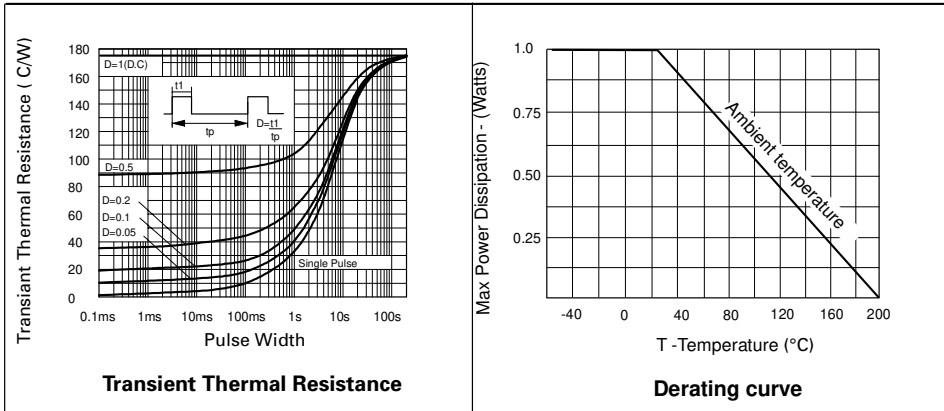
*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$.

ZTX1149A

TYPICAL CHARACTERISTICS



ZTX1149A



*ZETEX ZTX1149 Spice model Last revision 10/1/97

*

.MODEL ZTX1149 PNP IS =9.5e-13 NF=1.002 ISE=1.2e-13 NE =1.4 BF =520

+ VAF=24.97 IKF=5 NR =0.997 ISC=4.5E-13 NC =1.25

+ BR = 40 VAR=2.51 IKR=0.7 RE =20e-3 RB =150e-3

+ RC =10e-3 CJE=490e-12 CJC=150e-12 VJC=1.094

+ MJC= 0.4739 TF =1e-9 TR = 3.5e-9

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Zetex plc.
Fields New Road, Chadderton, Oldham, OL9-8NP, United Kingdom.
Telephone: (44)161 622 4422 (Sales), (44)161 622 4444 (General Enquiries)
Fax: (44)161 622 4420

Zetex GmbH
Streitfeldstraße 19
D-81673 München
Germany
Telefon: (49) 89 45 49 49 0
Fax: (49) 89 45 49 49 49

Zetex Inc.
47 Mall Drive, Unit 4
Commack NY 11725
USA
Telephone: (516) 543-7100
Fax: (516) 864-7630

Zetex (Asia) Ltd.
3510 Metroplaza, Tower 2
Hing Fong Road,
Kwai Fong, Hong Kong
Telephone: (852) 26100 611
Fax: (852) 24250 494

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