NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

FEATURES

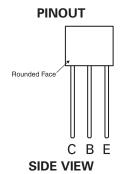
- $\bullet \quad V_{CEV} = 80V$
- Very low saturation voltages
- High gain
- 20 amps pulse current

APPLICATIONS

- LCD backlight converters
- Emergency lighting
- DC-DC converters



E-Line



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CBO}	80	V
Collector-Emitter Voltage	V _{CEO}	25	V
Emitter-Base Voltage	V _{EBO}	5	V
Peak Pulse Current	I _{CM}	20	А
Continuous Collector Current	I _C	4	А
Base Current	I _B	500	mA
Power Dissipation at T _{amb} =25°C	P _{tot}	1	W
Operating and Storage Temperature Range	T _j :T _{stg}	-55 to +200	°C



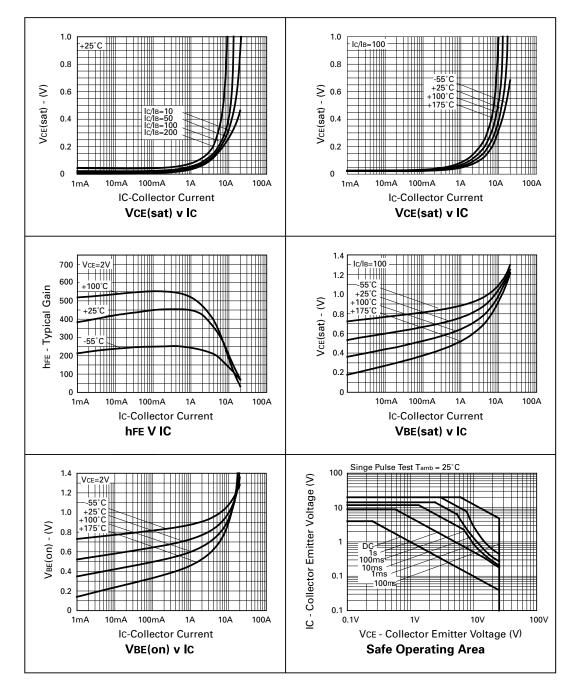
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25$ °C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Collector-Base Breakdown Voltage	V _{(BR)CBO}	80	120		V	I _C =100μA
Collector-Emitter Breakdown Voltage	V _{CES}	80	120		V	IC=100μA
Collector-Emitter Breakdown Voltage	V _{CEO}	25	30		V	IC=10mA
Collector-Emitter Breakdown Voltage	V _{CEV}	80	120		V	IC=100μA, V _{EB} =1V
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	5	8.75		V	I _E =100μA
Collector Cut-Off Current	I _{CBO}		0.3	10	nA	V _{CB} =50V
Emitter Cut-Off Current	I _{EBO}		0.3	10	nA	V _{EB} =4V
Collector Emitter Cut-Off Current	I _{CES}		0.3	10	nA	VCES=50V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		30 60 125 155	45 80 180 220	mV mV mV	I _C =0.5A, I _B =10mA* I _C =1A, I _B =10mA* I _C =2A, I _B =10mA* I _C =4A, I _B =50mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		890	950	mV	I _C =4A, I _B =50mA*
Base-Emitter Turn-On Voltage	V _{BE(on)}		820	900	mV	IC=4A, V _{CE} =2V*
Static Forward Current Transfer Ratio	h _{FE}	250 300 300 200 35	430 450 450 350 70	1200		I _C =10mA, V _{CE} =2V* I _C =0.5A, V _{CE} =2V* I _C =1A, V _{CE} =2V* I _C =4A, V _{CE} =2V* I _C =20A, V _{CE} =2V*
Transition Frequency	f _T		180		MHz	I _C =50mA, V _{CE} =10V f=50MHz
Output Capacitance	C _{obo}		45	60	pF	V _{CB} =10V, f=1MHz
Turn - On Time	t _{on}		125		ns	I _C =4A, I _B =40mA, V _{CC} =10V
Turn -Off Time	t _{off}		380		ns	I _C =4A, I _B =±40mA, V _{CC} =10V
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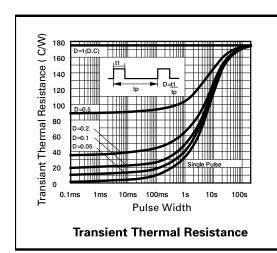
^{*}Measured under pulsed conditions. Pulse width=300 $\mu s.$ Duty cycle $\leq 2\%$

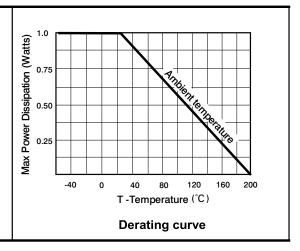


TYPICAL CHARACTERISTICS









SPICE PARAMETERS

*ZETEX ZTX1049A Spice model v1.0 Last revision 10/1/97

*

.MODEL ZTX1149A 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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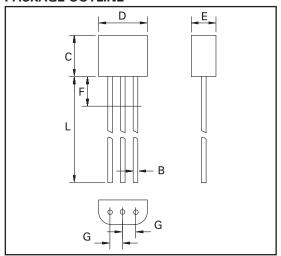
- "Preview"Future device intended for production at some point. Samples may be available
- "Active"Product status recommended for new designs
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PACKAGE OUTLINE



Controlling dimensions are in millimeters. Approximate conversions are given in inches

PACKAGE DIMENSIONS

DIM	Millin	neters	Inches		
DIIVI	Min	Max	Min	Max	
Α	0.41	0.495	0.016	0.0195	
В	0.41	0.495	0.016	0.0195	
С	3.61	4.01	0.142	0.158	
D	4.37	4.77	0.172	0.188	
Е	2.16	2.41	0.085	0.095	
F	_	2.50	_	0.098	
G	1.27	1.27 NOM		0.050 NOM	
L	13.00	13.97	0.512	0.550	

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Europe	Americas	Asia Pacific	Corporate Headquarters
Zetex GmbH Kustermann-Park Balanstraße 59 D-81541 München Germany	Zetex Inc 700 Veterans Memorial Hwy Hauppauge, NY 11788 USA	Zetex (Asia) Ltd 3701-04 Metroplaza Tower 1 Hing Fong Road, Kwai Fong Hong Kong	Zetex Semiconductors plc Zetex Technology Park Chadderton, Oldham, OL9 9LL United Kingdom
Telefon: (49) 89 45 49 49 0 Fax: (49) 89 45 49 49 europe.sales@zetex.com	Telephone: (1) 631 360 2222 Fax: (1) 631 360 8222 <u>usa.sales@zetex.com</u>	Telephone: (852) 26100 611 Fax: (852) 24250 494 asia.sales@zetex.com	Telephone (44) 161 622 4444 Fax: (44) 161 622 4446 <u>hq@zetex.com</u>

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