

ZTX1055A

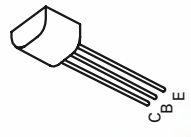
NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ISSUE 3 - JANUARY 1995

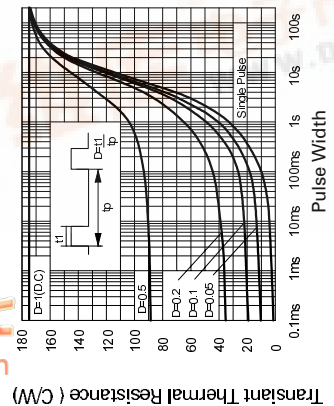
ZTX1055A

FEATURES

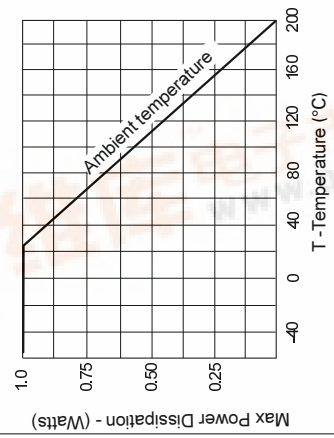
- * $V_{CE0}=120V$
 - * 3Amp continuous Current
 - * 6Amp pulse Current
 - * Very Low Saturation Voltage
- APPLICATIONS**
- * Automotive Switching Circuit
 - * Audio Driver Stages



E-Line
TO92 Compatible



Transient Thermal Resistance



Derating curve

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	175	V
Collector-Emitter Voltage	V_{CEO}	120	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	6	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	$^{\circ}C$

SPICE PARAMETERS

ZETEX ZTX1055A Spice model Last revision 25/1/95

MODEL ZTX1055A NPN IS=1.60E-12 NF=1.0 BF=500 IKF=4.0 VAF=120
 ISE=4.0E-13 NE=1.4 NR=1.0 BR=80 IKR=2.5 VAR=15
 ISC=5.0E-10 NC=1.7 RB=0.1 RE=0.040 RC=0.030
 CJC=63.3E-12 CJE=512.6E-12 MJC=0.439 MJE=0.373
 VJC=0.511 VJE=0.800 TF=700E-12 TR=110E-9

© 1995 ZETEX PLC

The copyright in this model and the design embodied belong to Zetex PLC ("Zetex"). It is supplied free of charge by Zetex for the purpose of research and design and may be used or copied intact including this notice) for that purpose only. All other rights are reserved. The model is believed accurate but no condition or warranty as to its merchantability or fitness for purpose is given and no liability in respect of any use is accepted by Zetex PLC, its distributors or agents.



Zetex plc.
 Fields New Road, Chadderton, Oldham, OL9-8NP, United Kingdom.
 Telephone: (44)161-627 5105 (Sales), (44)161-627 4963 (General Enquiries)
 Facsimile: (44)161-627 5467

Zetex GmbH
 Traillfeldstraße 19
 D-81673 München
 Telephone: (49) 89 45 49 49 0
 Fax: (49) 89 45 49 49 9

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

These are supported by agents and distributors in major countries world-wide
 ©Zetex plc 1995

This publication is issued to provide outline information only which, (unless agreed by the Company in writing), may not be used, applied or reproduced for any purpose or form part of any order or contract or be regarded as a representation relating to the products or services concerned. The Company reserves the right to alter without notice the specification, design, price or conditions of supply of any product or service.



[查询ZTX1055供应商](#)

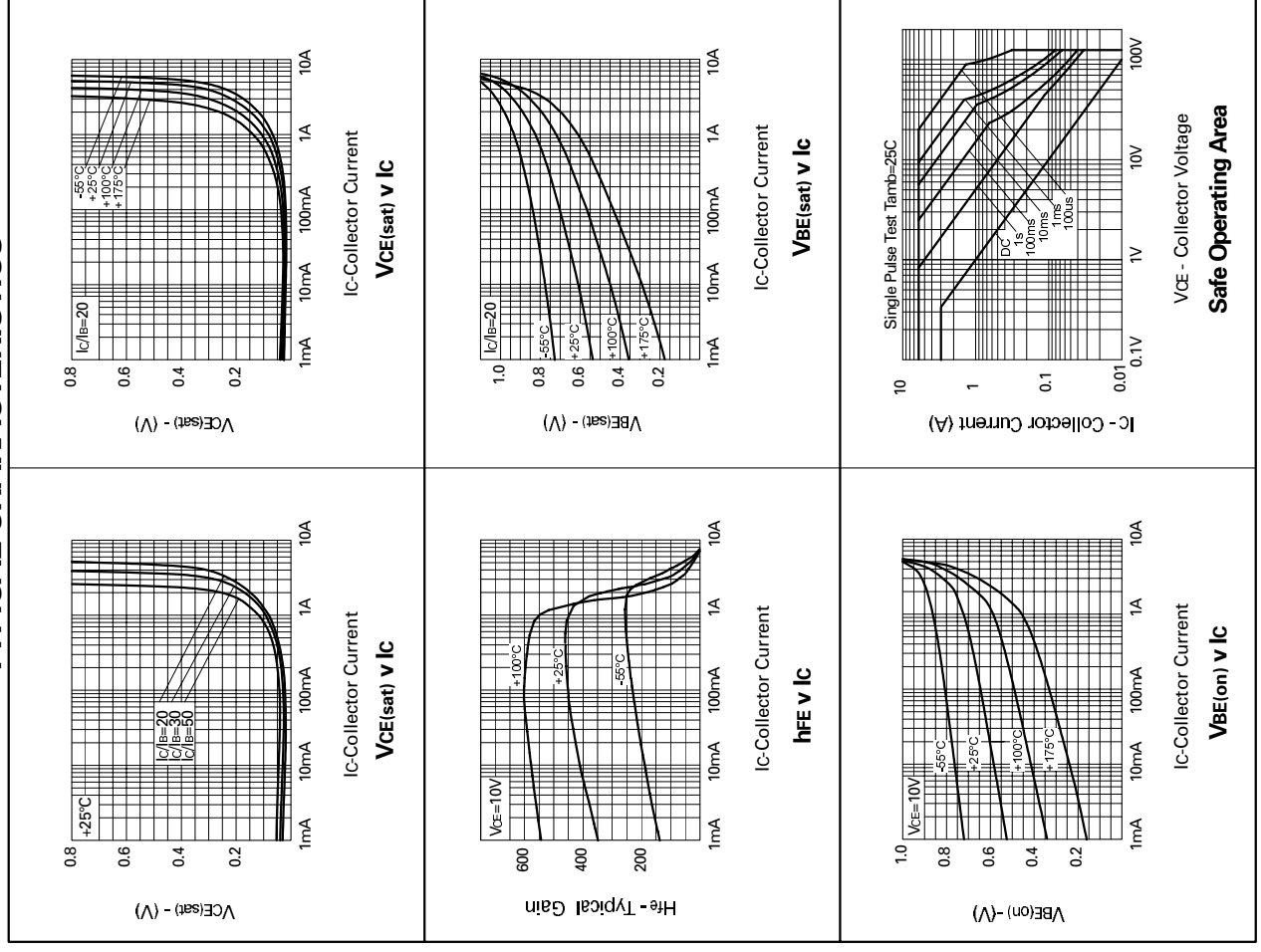
[捷多邦, 专业PCB打样工厂, 24小时加急出货](#)

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	175	280		V	$I_C = 100\mu A$
Collector-Emitter Breakdown Voltage	V_{CES}	175	280		V	$I_C = 100\mu A$
Collector-Emitter Breakdown Voltage	V_{CEO}	120	150		V	$I_C = 10mA$
Collector-Emitter Breakdown Voltage	V_{CEV}	175	280		V	$I_C = 100\mu A, V_{EB} = 1V$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	8.8		V	$I_E = 100\mu A$
Collector Cut-Off Current	I_{CBO}		0.3	10	nA	$V_{CB} = 130V$
Emitter Cut-Off Current	I_{EBO}		0.3	10	nA	$V_{EB} = 4V$
Collector Emitter Cut-Off Current	I_{CES}		0.3	10	nA	$V_{CES} = 130V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		22	50	mV	$I_C = 0.1A, I_B = 5mA^*$
			120	160	mV	$I_C = 1A, I_B = 20mA^*$
			220	310	mV	$I_C = 3A, I_B = 150mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		950	1000	mV	$I_C = 3A, I_B = 150mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		810	900	mV	$I_C = 3A, V_{CE} = 10V^*$
Static Forward Current Transfer Ratio	hFE	275	400	1200		$I_C = 10mA, V_{CE} = 10V^*$
		300	450			$I_C = 1A, V_{CE} = 10V^*$
		50	110			$I_C = 3A, V_{CE} = 10V^*$
		15	15			$I_C = 6A, V_{CE} = 10V^*$
Transition Frequency	f_T		130		MHz	$I_C = 50mA, V_{CE} = 10V, f = 100MHz$
Output Capacitance	C_{obo}		17	30	pF	$V_{CB} = 10V, f = 1MHz$
Switching Times	t_{on}		90		ns	$I_C = 1A, I_B = 10mA, V_{CC} = 50V$
	t_{off}		2400		ns	$I_C = 1A, I_B = \pm 10mA, V_{CC} = 50V$

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

TYPICAL CHARACTERISTICS

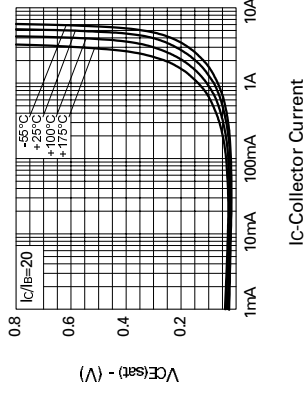
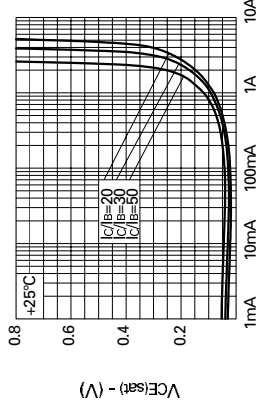


ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{BR(CBO)}	175	280		V	I _C =100μA
Collector-Emitter Breakdown Voltage	V _{CE(S)}	175	280		V	I _C =100μA
Collector-Emitter Breakdown Voltage	V _{CEO}	120	150		V	I _C =10mA
Collector-Emitter Breakdown Voltage	V _{CEV}	175	280		V	I _C =100μA, V _{EB} =1V
Emitter-Base Breakdown Voltage	V _{BR(EBO)}	5	8.8		V	I _E =100μA
Collector Cut-Off Current	I _{CBO}		0.3	10	nA	V _{CB} =130V
Emitter Cut-Off Current	I _{EBO}		0.3	10	nA	V _{EB} =4V
Collector Emitter Cut-Off Current	I _{CES}		0.3	10	nA	V _{CE(S)} =130V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		22	50	mV	I _C =0.1A, I _B =5mA*
			120	160	mV	I _C =1A, I _B =20mA*
			220	310	mV	I _C =3A, I _B =150mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		950	1000	mV	I _C =3A, I _B =150mA*
Base-Emitter Turn-On Voltage	V _{BE(on)}		810	900	mV	I _C =3A, V _{CE} =10V*
Static Forward Current Transfer Ratio	h _{FE}	275	400	1200		I _C =10mA, V _{CE} =10V*
		300	450			I _C =1A, V _{CE} =10V*
		50	110			I _C =3A, V _{CE} =10V*
			15			I _C =6A, V _{CE} =10V*
Transition Frequency	f _T		130		MHz	I _C =50mA, V _{CE} =10V f=100MHz
Output Capacitance	C _{obo}		17	30	pF	V _{CB} =10V, f=1MHz
Switching Times	t _{on}		90		ns	I _C =1A, I _B =10mA, V _{CC} =50V
	t _{off}		2400		ns	I _C =1A, I _B =±10mA, V _{CC} =50V

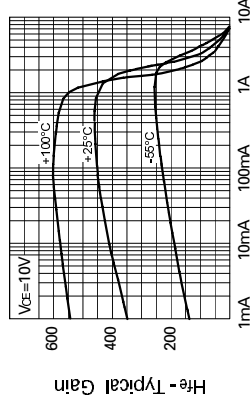
Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%

TYPICAL CHARACTERISTICS



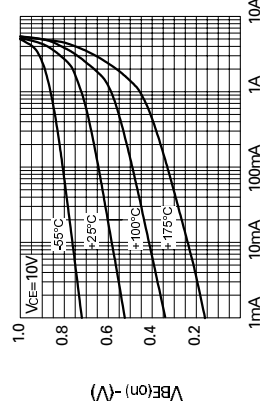
I_C-Collector Current
V_{CE(sat)} v I_C

I_C-Collector Current
V_{CE(sat)} v I_C



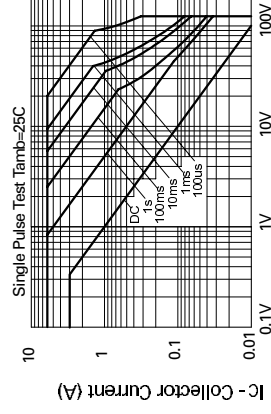
I_C-Collector Current
h_{FE} v I_C

I_C-Collector Current
V_{BE(sat)} v I_C



I_C-Collector Current
V_{BE(on)} v I_C

V_{CE} - Collector Voltage
Safe Operating Area



ZTX1055A

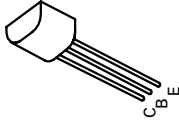
NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ZTX1055A

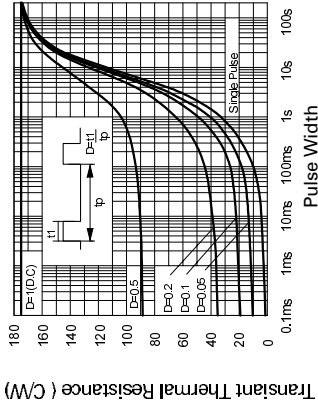
ISSUE 3 - JANUARY 1995

FEATURES

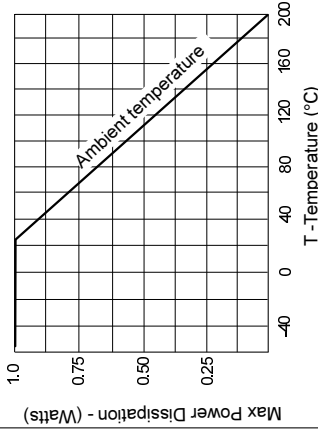
- * $V_{CE0}=120V$
 - * 3Amp continuous Current
 - * 6Amp pulse Current
 - * Very Low Saturation Voltage
- ### APPLICATIONS
- * Automotive Switching Circuit
 - * Audio Driver Stages



E-Line
TO92 Compatible



Transient Thermal Resistance



Derating curve

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	175	V
Collector-Emitter Voltage	V_{CEO}	120	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	6	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	$^{\circ}C$

SPICE PARAMETERS

ZETEX ZTX1055A Spice model Last revision 25/1/95

MODEL ZTX1055A NPN IS=1.60E-12 NF=1.0 BF=500 IKF=4.0 VAF=120
 ISE=4.0E-13 NE=1.4 NR=1.0 BR=80 IKR=2.5 VAR=15
 ISC=5.0E-10 NC=1.7 RB=0.1 RE=0.040 RC=0.030
 CJC=63.3E-12 CJE=512.6E-12 MJC=0.439 MJE=0.373
 VJC=0.511 VJE=0.800 TF=700E-12 TR=110E-9

© 1995 ZETEX PLC

The copyright in this model and the design embodied belong to Zetex PLC ("Zetex"). It is supplied free of charge by Zetex for the purpose of research and design and may be used or copied intact including this notice) for that purpose only. All other rights are reserved. The model is believed accurate but no condition or warranty as to its merchantability or fitness for purpose is given and no liability in respect of any use is accepted by Zetex PLC, its distributors or agents.



Zetex GmbH
 Treibfeldstraße 19
 D-81673 München
 Telefon: (49) 89 45 49 49 0
 Fax: (49) 89 45 49 49 9

Zetex Inc.
 87 Modular Avenue
 Commack NY 11725
 Telephone: (516) 543-7100
 Fax: (516) 864-7630

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

These are supported by agents and distributors in major countries world-wide
 © Zetex plc 1995

This publication is issued to provide outline information only which, (unless agreed by the Company in writing), may not be used, applied or reproduced for any purpose or form part of any order or contract or be regarded as a representation relating to the products or services concerned. The Company reserves the right to alter without notice the specification, design, price or conditions of supply of any product or service.

