

ZTX1053A

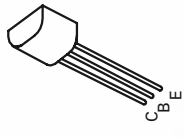
NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ZTX1053A

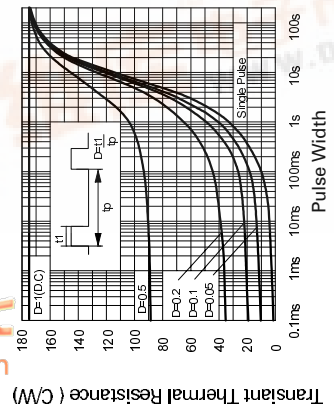
ISSUE 3-JANUARY 1995

FEATURES

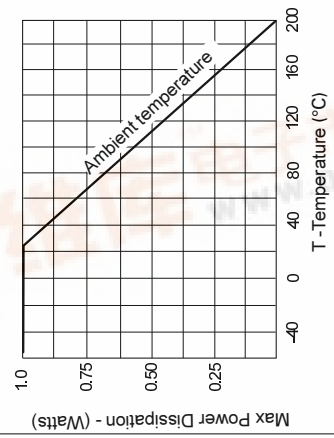
- * $V_{CE0}=75V$
 - * 3Amp Continuous Current
 - * 10 Amp Pulse Current
 - * Very Low Saturation Voltage
- APPLICATIONS**
- * Automotive Switching Circuits
 - * DC-DC Convertors



E-Line
TO92 Compatible



Transient Thermal Resistance



Derating curve

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	ZTX1053A	UNIT
Collector-Base Voltage	V_{CBO}	150	V
Collector-Emitter Voltage	V_{CEO}	75	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	$^{\circ}C$

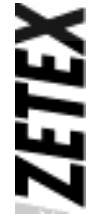
SPICE PARAMETERS

ZETEX ZTX1053A Spice model Last revision 19/01/95

MODEL ZTX1053A NPN IS=2.1E-12 NF=1.0 BF=600 IKF=2.2 VAF=100
 ISE=0.9E-13 NE=1.25 NR=0.99 BR=150 IKR=2.5 VAR=15
 ISC=5.0E-10 NC=1.76 RB=0.1 RE=0.028 RC=0.016
 CJC=75.1E-12 CJE=520E-12 MJC=0.415 MJE=0.367
 VJC=0.512 VJE=0.766 TF=550E-12 TR=22E-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
 Telephone: (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.

查询ZTX1053供应商

捷多邦, 专业PCB打样工厂, 24小时加急出货

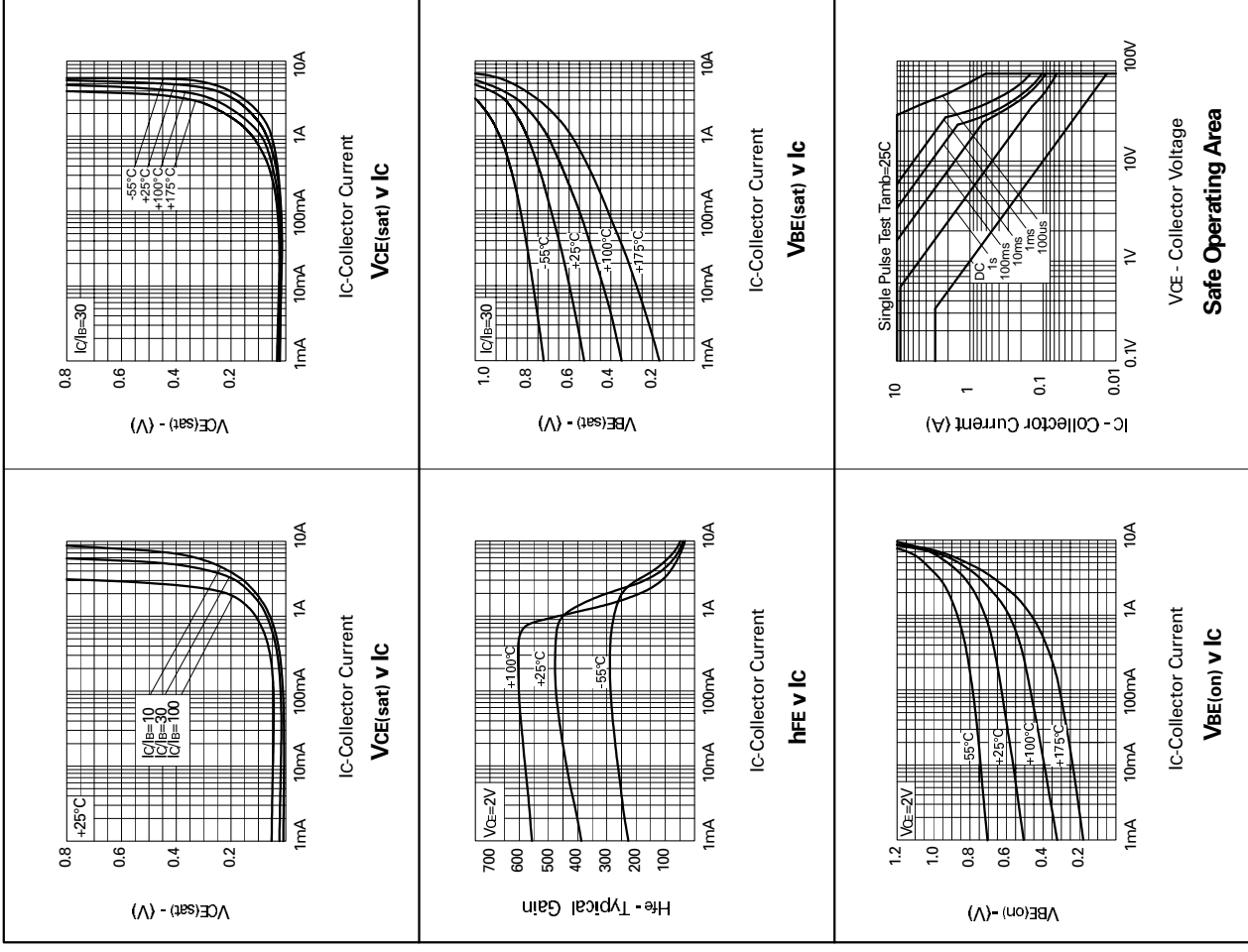


ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{BR(CBO)}	150	245		V	I _C =100μA
Collector-Emitter Breakdown Voltage	V _{CES}	150	245		V	I _C =100μA
Collector-Emitter Breakdown Voltage	V _{CEO}	75	100		V	I _C =10mA
Collector-Emitter Breakdown Voltage	V _{CEV}	150	245		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} =120V
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} =120V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		17 120 180	25 150 250	mV	I _C =0.2A, I _B =20mA* I _C =1A, I _B =10mA* I _C =3A, I _B =100mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		900	1000	mV	I _C =3A, I _B =100mA*
Base-Emitter Turn-On Voltage	V _{BE(on)}		825	950	mV	I _C =3A, V _{CE} =2V*
Static Forward Current Transfer Ratio	h _{FE}	260 300 100	420 450 150	1200		I _C =10mA, V _{CE} =2V* I _C =1A, V _{CE} =2V* I _C =3A, V _{CE} =2V* I _C =10A, V _{CE} =2V*
Transition Frequency	f _T		140		MHz	I _C =50mA, V _{CE} =10V f=100MHz
Output Capacitance	C _{obo}		21	30	pF	V _{CB} =10V, f=1MHz
Switching Times	t _{on}		90		ns	I _C =2A, I _B =20mA, V _{CC} =50V
	t _{off}		750		ns	I _C =2A, I _B =±20mA, V _{CC} =50V

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

TYPICAL CHARACTERISTICS

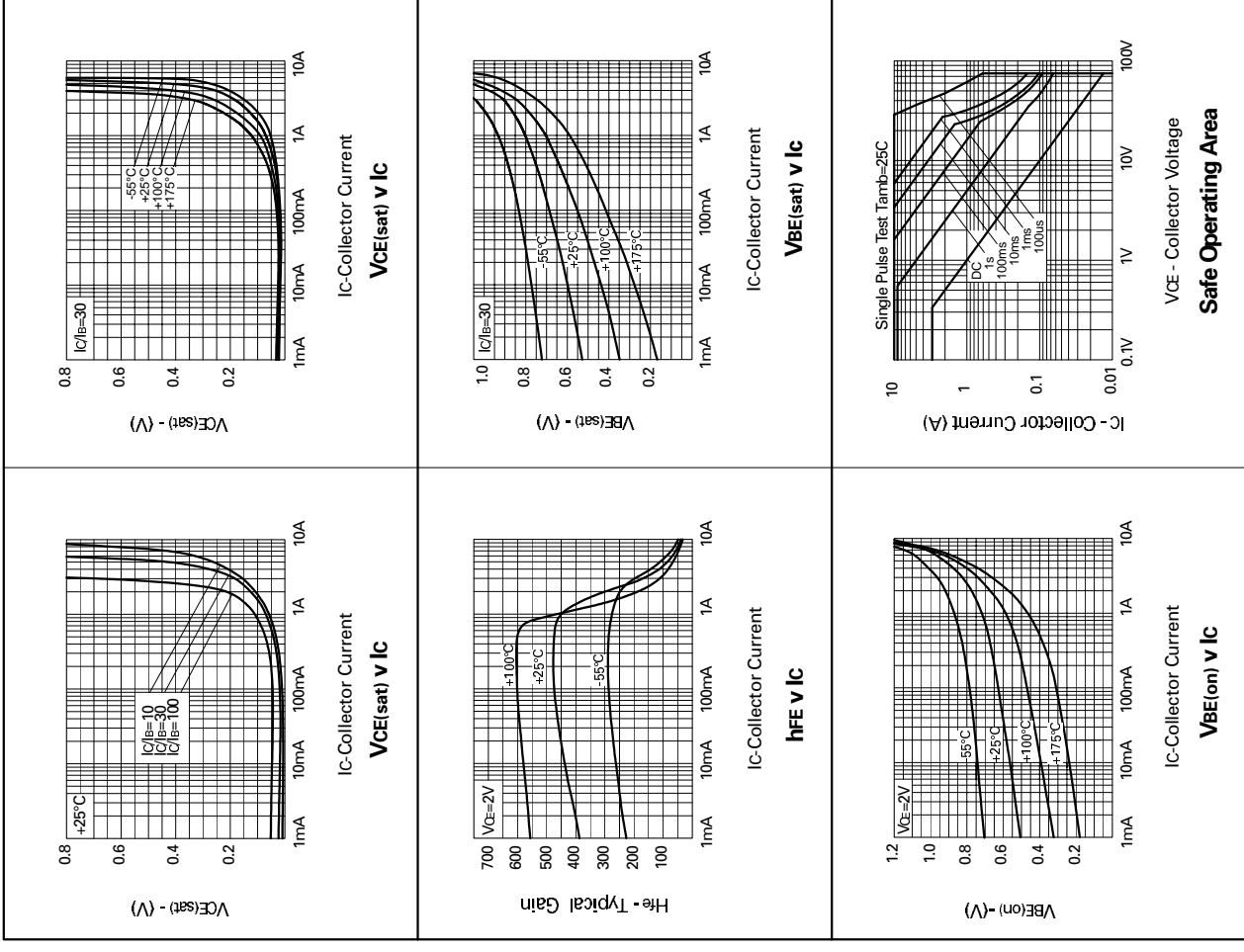


ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{BR(CBO)}	150	245		V	I _C =100μA
Collector-Emitter Breakdown Voltage	V _{CES}	150	245		V	I _C =100μA
Collector-Emitter Breakdown Voltage	V _{CEO}	75	100		V	I _C =10mA
Collector-Emitter Breakdown Voltage	V _{CEV}	150	245		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} =120V
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} =120V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		17 120 180	25 150 250	mV	I _C =0.2A, I _B =20mA* I _C =1A, I _B =10mA* I _C =3A, I _B =100mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		900	1000	mV	I _C =3A, I _B =100mA*
Base-Emitter Turn-On Voltage	V _{BE(on)}		825	950	mV	I _C =3A, V _{CE} =2V*
Static Forward Current Transfer Ratio	h _{FE}	260 300 100	420 450 150	1200		I _C =10mA, V _{CE} =2V* I _C =1A, V _{CE} =2V* I _C =3A, V _{CE} =2V* I _C =10A, V _{CE} =2V*
Transition Frequency	f _T		140		MHz	I _C =50mA, V _{CE} =10V f=100MHz
Output Capacitance	C _{obo}		21	30	pF	V _{CB} =10V, f=1MHz
Switching Times	t _{on}		90		ns	I _C =2A, I _B =20mA, V _{CC} =50V
	t _{off}		750		ns	I _C =2A, I _B =±20mA, V _{CC} =50V

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

TYPICAL CHARACTERISTICS



ZTX1053A

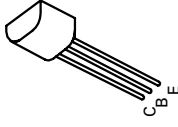
NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ZTX1053A

ISSUE 3 - JANUARY 1995

FEATURES

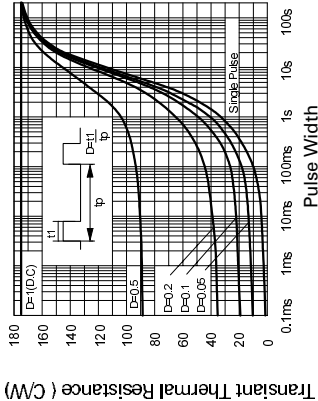
- * $V_{CE0}=75V$
 - * 3Amp Continuous Current
 - * 10 Amp Pulse Current
 - * Very Low Saturation Voltage
- APPLICATIONS**
- * Automotive Switching Circuits
 - * DC-DC Convertors



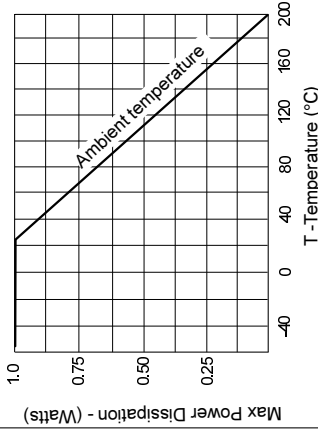
E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	ZTX1053A	UNIT
Collector-Base Voltage	V_{CBO}	150	V
Collector-Emitter Voltage	V_{CEO}	75	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	$^{\circ}C$



Transient Thermal Resistance



Derating curve

SPICE PARAMETERS

ZETEX ZTX1053A Spice model Last revision 19/01/95

MODEL ZTX1053A NPN IS=2.1E-12 NF=1.0 BF=600 IKF=2.2 VAF=100
 ISE=0.9E-13 NE=1.25 NR=0.99 BR=150 IKR=2.5 VAR=15
 ISC=5.0E-10 NC=1.76 RB=0.1 RE=0.028 RC=0.016
 CJC=75.1E-12 CJE=520E-12 MJC=0.415 MJE=0.367
 VJC=0.512 VJE=0.766 TF=550E-12 TR=22E-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.

