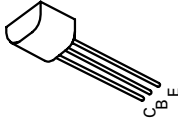
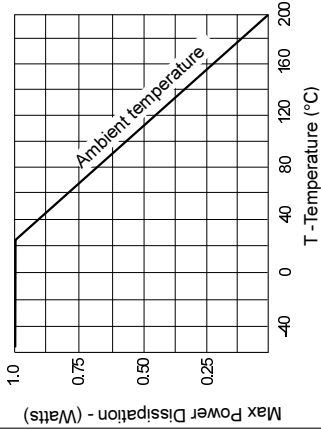
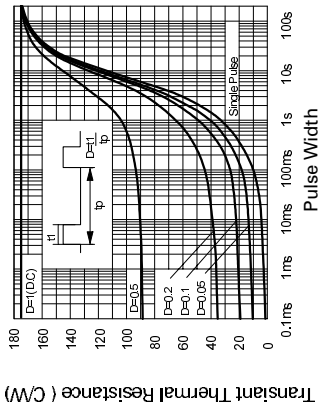


ZTX1053A**NPN SILICON PLANAR MEDIUM POWER
HIGH GAIN TRANSISTOR****ZTX1053A**

ISSUE 3 - JANUARY 1995

FEATURES

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

E-Line
TO92 Compatible**Derating curve****Transient Thermal Resistance****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

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ZTX1053A

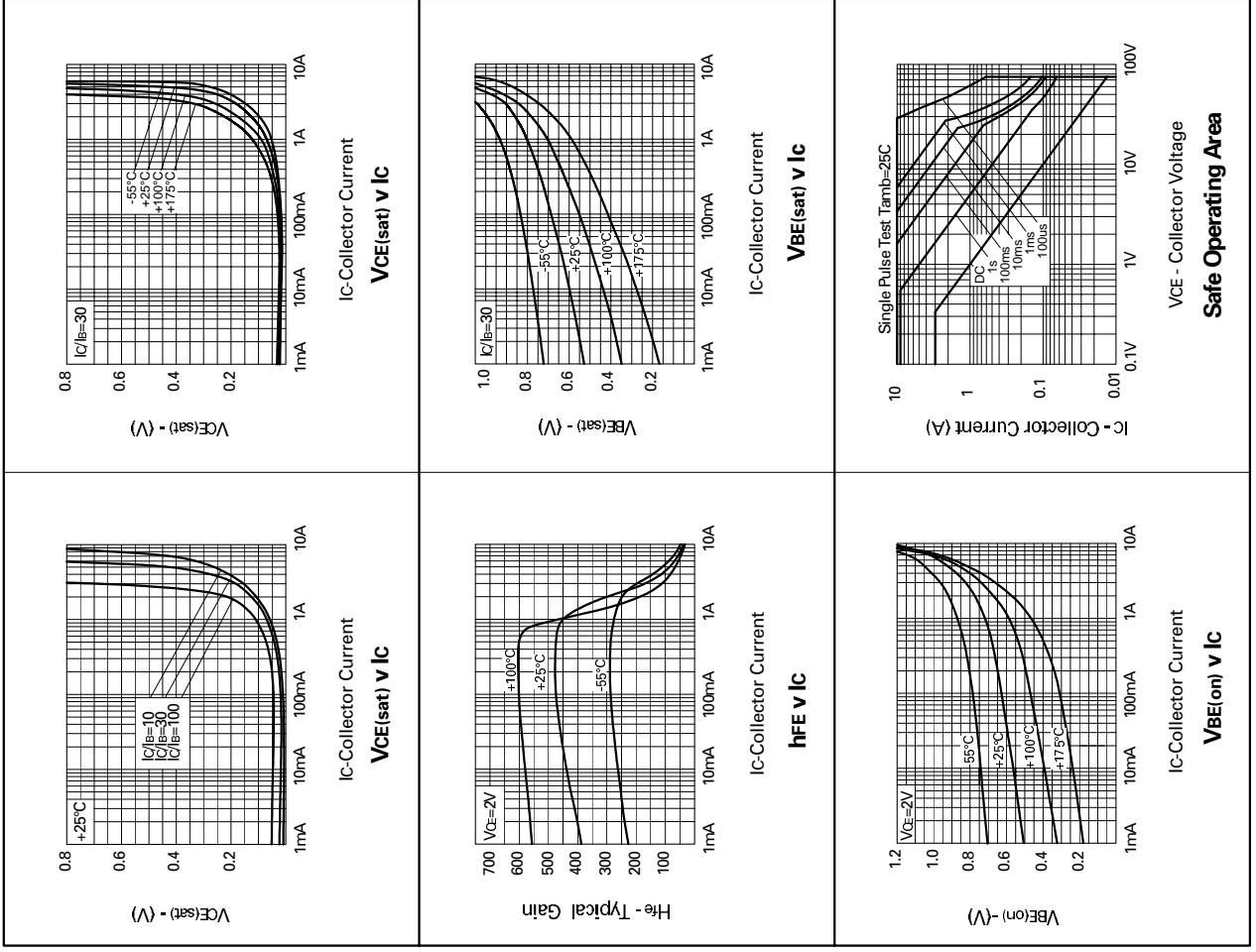
ZTX1053A

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 _{CE} =120V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		17	25	mV	I _C =0.2A, I _B =20mA*
			120	150	mV	I _C =1A, I _B =10mA*
			180	250	mV	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	420	1200		I _C =10mA, V _{CE} =2V*
		300	450			I _C =1A, V _{CE} =2V*
		100	150			I _C =3A, V _{CE} =2V*
			15			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

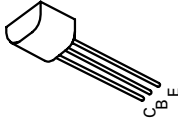
NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ISSUE 3 - JANUARY 1995

ZTX1053A

FEATURES

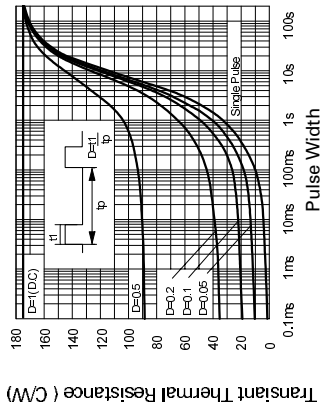
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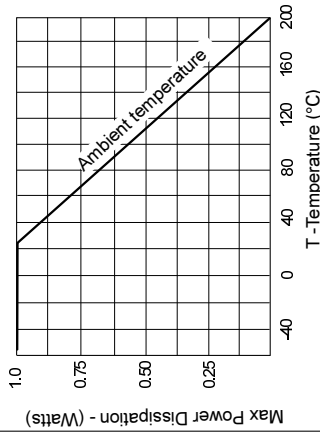
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Transient Thermal Resistance



Derating curve

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