

OBSELETE - PLEASE USE ZTX855

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

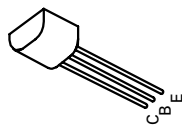
ISSUE 3 - JANUARY 1995

FEATURES

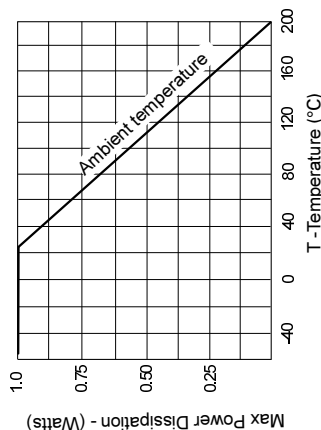
- * $V_{CE0}=160V$
- * 3 Amp Continuous Current
- * 6 Amp Pulse Current
- * Low Saturation Voltage

ZTX1056A

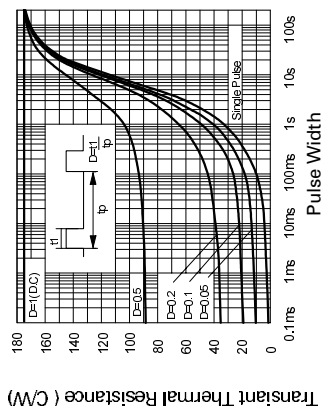
ZTX1056A



**E-Line
TO92 Compatible**



Derating curve



Transient Thermal Resistance

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CB0}	200	V
Collector-Emitter Voltage	V_{CE0}	160	V
Emitter-Base Voltage	V_{EB0}	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 ZTX1056A Spice model Last revision 24/1/95

.MODEL ZTX1056A NPN IS=1.41E-12 NF=1.0 BF=600 IKF=2.0 VAF=120

+ ISE=4.0E-13 NE=1.4 NR=1.0 BR=80 IKR=2.5 VAR=10

+ ISC=6.0E-10 NC=1.7 RB=0.1 RE=0.065 RC=0.015

+ CJC=53.1E-12 CJE=508.6E-12 MJC=0.461 MJE=0.350

+ VJC=0.461 VJE=0.679 TF=800E-12 TR=110E-9

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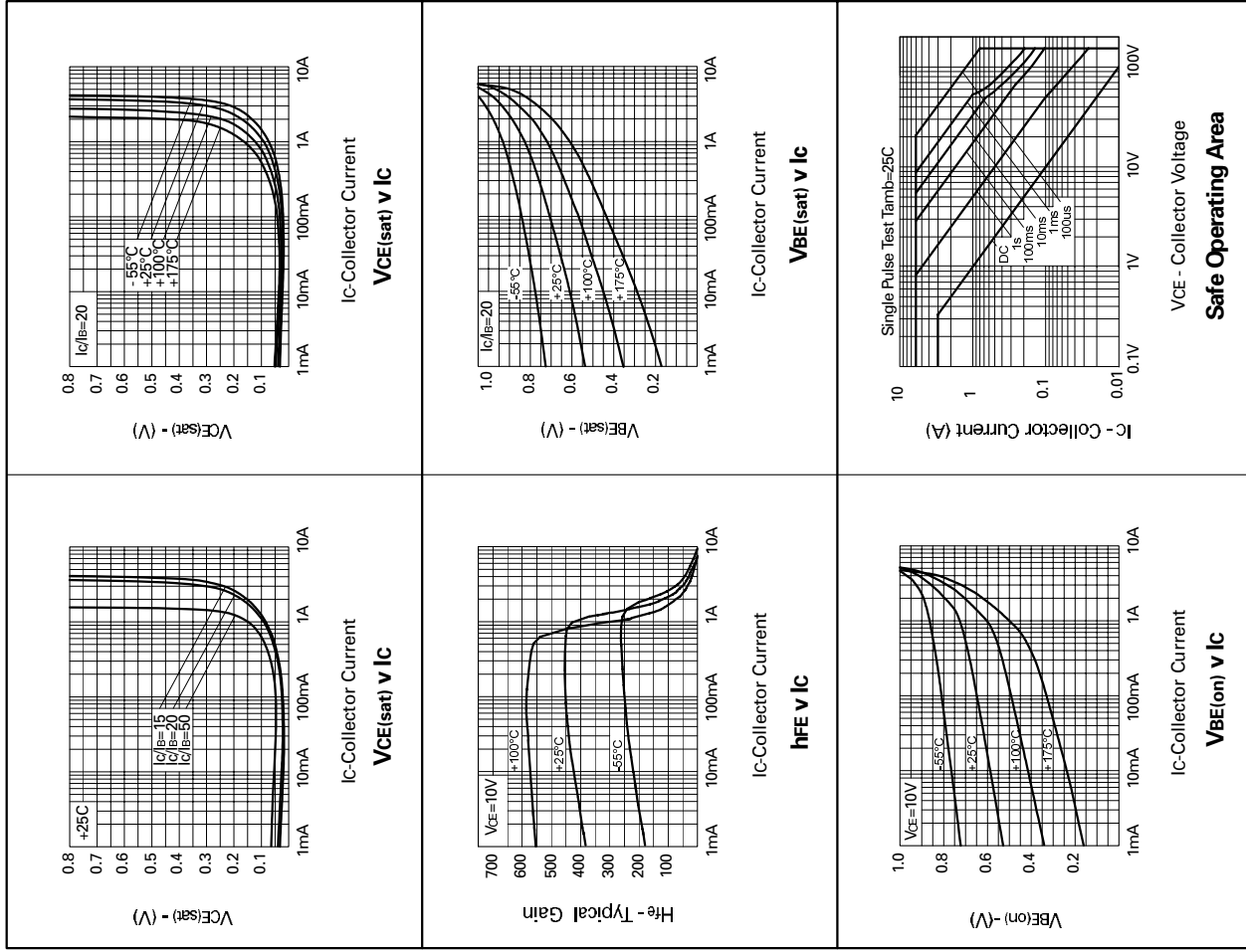


ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Collector-Base Breakdown Voltage	V _{BR(CBO)}	200	310		V	I _C =100µA
Collector-Emitter Breakdown Voltage	V _{CES}	200	310		V	I _C =100µA
Collector-Emitter Breakdown Voltage	V _{CEO}	160	190		V	I _C =10mA
Collector-Emitter Breakdown Voltage	V _{CEV}	200	310		V	I _C =100µA, V _{EB} =1V
Emitter-Base Breakdown Voltage	V _{BR(EB0)}	5	8.8		V	I _E =100µA
Collector Cut-Off Current	I _{CBO}		0.3	10	nA	V _{CB} =150V
Emitter Cut-Off Current	I _{EB0}		0.3	10	nA	V _{EB} =4V
Collector Emitter Cut-Off Current	I _{CES}		0.3	10	nA	V _{CES} =150V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		25	60	mV	I _C =0.1A, I _B =5mA*
			95	140	mV	I _C =1A, I _B =50mA*
			175	250	mV	I _C =2A, I _B =100mA*
			220	300	mV	I _C =3A, I _B =200mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		950	1050	mV	I _C =3A, I _B =200mA*
Base-Emitter Turn-On Voltage	V _{BE(on)}		860	950	mV	I _C =3A, V _{CE} =10V*
Static Forward Current Transfer Ratio	h _{FE}	275	420			I _C =10mA, V _{CE} =10V*
		300	450	1200		I _C =0.5A, V _{CE} =10V*
		250	400			I _C =1A, V _{CE} =10V*
		60	120			I _C =2A, V _{CE} =10V*
		30	50			I _C =3A, V _{CE} =10V*
			15			I _C =6A, V _{CE} =10V*
Transition Frequency	f _T		120		MHz	I _C =50mA, V _{CE} =10V f=100MHz
Output Capacitance	C _{obo}		14	25	pF	V _{CB} =10V, f=1MHz
Switching Times	t _{on}		110		ns	I _C =1A, I _B =10mA, V _{CC} =50V
	t _{off}		2450		ns	I _C =1A, I _B =±10mA, V _{CC} =50V

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

TYPICAL CHARACTERISTICS

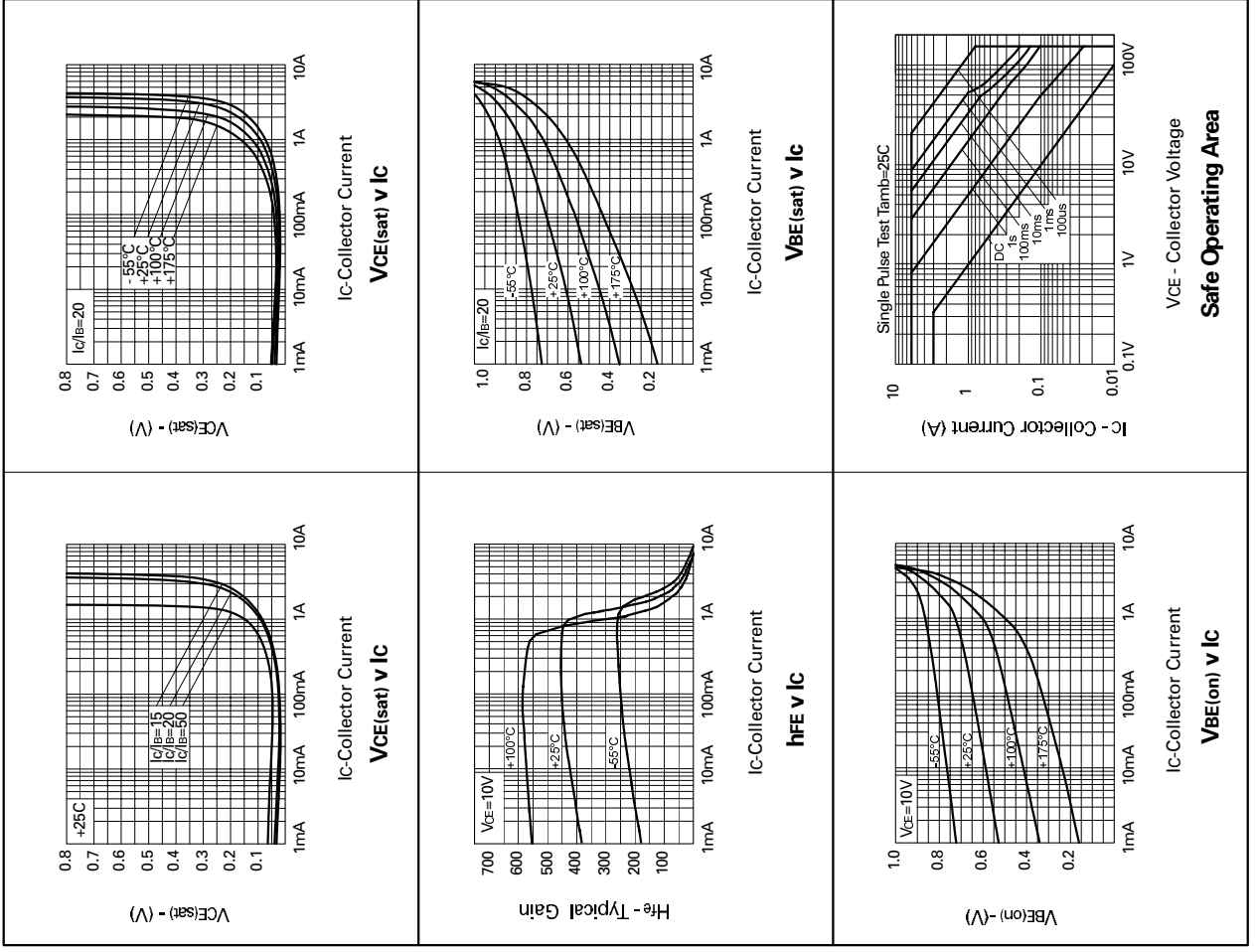


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ZTX1056A

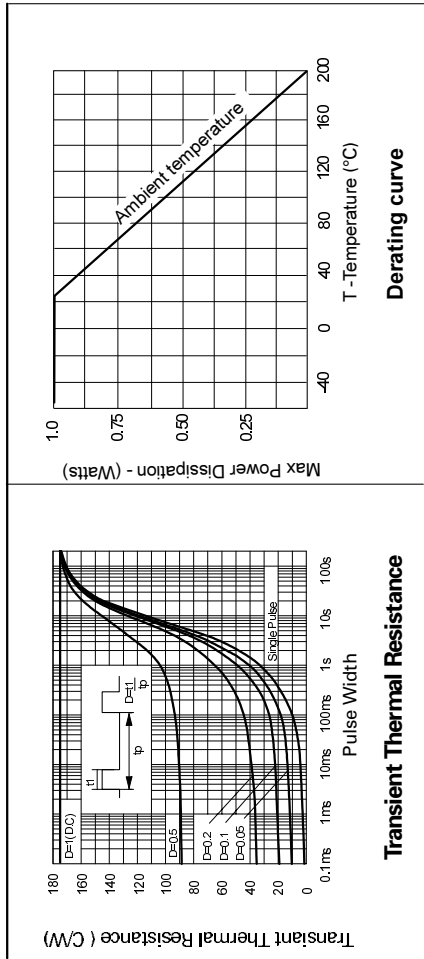
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