THE DATASHEET OF

ZTX651STOA

ZTX650
ZTX651

NPN SILICON PLANAR
MEDIUM POWER TRANSIS

ISSUE 2 – JULY 94

FEATURES

* 60 Volt V_{CEO}
* 2 Amp continuous current
* Low saturation voltage
* P_{tot}=1 Watt

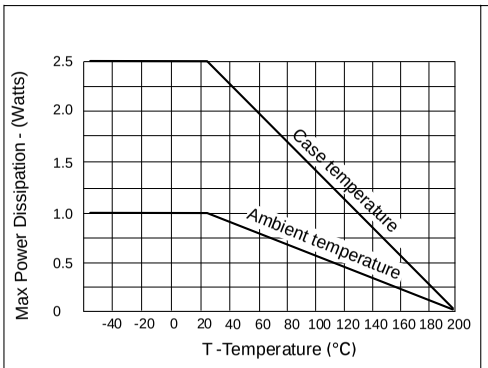
PARAMETER	SYMBOL	ZTX650			ZTX651			UNIT	CONDITIONS.
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
Transition Frequency	f_T	140	175		140	175		MHz	I_C=100mA, V_{CE}=5V f=100MHz
Switching Times	t_{on}		45			45		ns	I_C=500mA, V_{CC}=10V I_{B1}=I_{B2}=50mA
	t_{off}		800			800		ns	
Output Capacitance	C_{obo}			30			30	pF	V_{CB}=10V f=1MHz

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

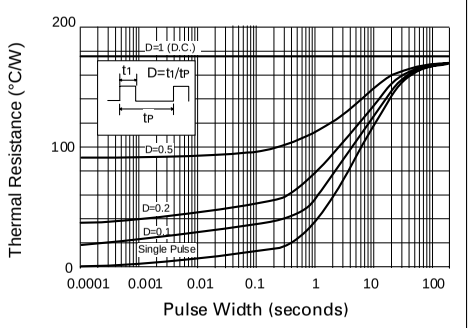
THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance:Junction to Ambient$_1$	$R_{th(j\text{-}amb)1}$	175	°C/W
Junction to Ambient$_2$	$R_{th(j\text{-}amb)2}$†	116	°C/W
Junction to Case	$R_{th(j\text{-}case)}$	70	°C/W

† Device mounted on P.C.B. with copper equal to 1 sq. Inch minimum.



Derating curve



Maximum transient thermal impedance

ABSOLUTE MAXIMUM RATINGS

PARAMETER	
Collector-Base Voltage	
Collector-Emitter Voltage	
Emitter-Base Voltage	
Peak Pulse Current	
Continuous Collector Current	
Power Dissipation	at T_{amb}=25°C derate above 25°C
Operating and Storage Temperature Ran	

ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	ZTX	
		MIN.	TY
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	45	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	
Collector Cut-Off Current	I_{CBO}		
Emitter Cut-Off Current	I_{EBO}		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0. 0.
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.9
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.8

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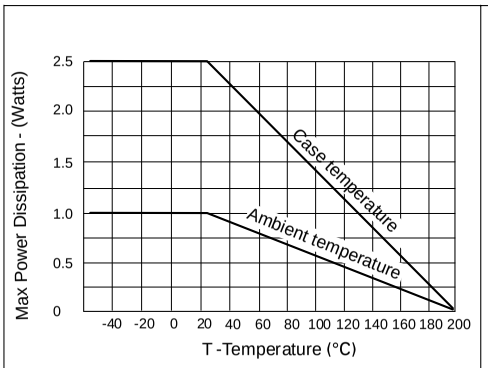
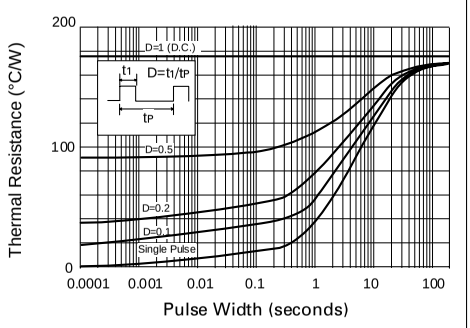


Derating curve



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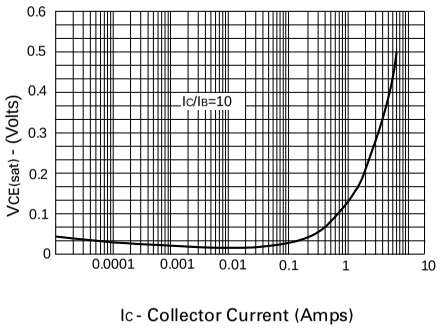
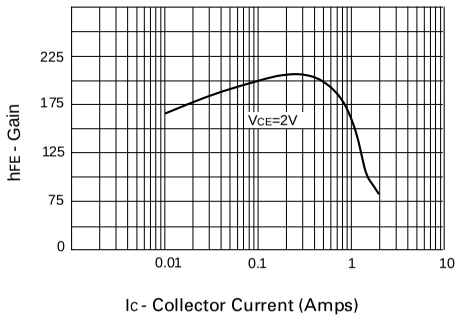
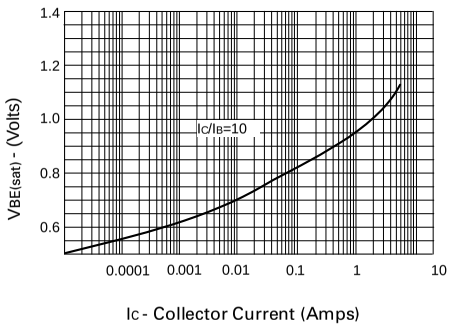
TYPICAL CHARACTERISTICS



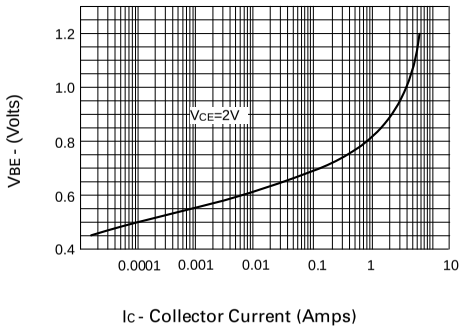
VCE(sat) v IC



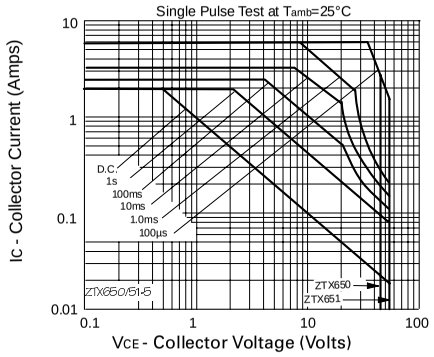
hFE v IC



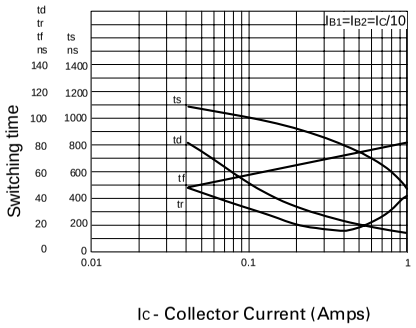
VBE(sat) v IC



VBE(on) v IC



Safe Operating Area



Switching Speeds

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