

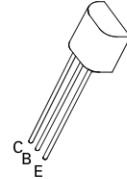
PNP SILICON PLANAR MEDIUM POWER TRANSISTORS

ISSUE 2 – JULY 94

ZTX750 ZTX751

FEATURES

- * 60 Volt V_{CE0}
- * 2 Amp continuous current
- * Low saturation voltage
- * $P_{tot} = 1$ Watt



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	ZTX750	ZTX751	UNIT
Collector-Base Voltage	V_{CBO}	-60	-80	V
Collector-Emitter Voltage	V_{CEO}	-45	-60	V
Emitter-Base Voltage	V_{EBO}		-5	V
Peak Pulse Current	I_{CM}		-6	A
Continuous Collector Current	I_C		-2	A
Power Dissipation: at $T_{amb}=25^{\circ}C$ derate above $25^{\circ}C$	P_{tot}		1 5.7	W mW/ $^{\circ}C$
Operating and Storage Temperature Range	$T_j; T_{stg}$		-55 to +200	$^{\circ}C$

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

PARAMETER	SYMBOL	ZTX750			ZTX751			UNIT	CONDITIONS.
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-60			-80			V	$I_C = -100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-45			-60			V	$I_C = -10mA$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			-5			V	$I_E = -100\mu A$
Collector Cut-Off Current	I_{CBO}			-0.1 -10			-0.1 -10	μA μA μA μA	$V_{CB} = -45V$ $V_{CB} = -60V$ $V_{CB} = -45V, T_{amb} = 100^{\circ}C$ $V_{CB} = -60V, T_{amb} = 100^{\circ}C$
Emitter Cut-Off Current	I_{EBO}			-0.1			-0.1	μA	$V_{EB} = -4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.15 -0.28	-0.3 -0.5		-0.15 -0.28	-0.3 -0.5	V V	$I_C = -1A, I_B = -100mA$ $I_C = -2A, I_B = -200mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.9	-1.25		-0.9	-1.25	V	$I_C = -1A, I_B = -100mA$

ZTX750 ZTX751

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

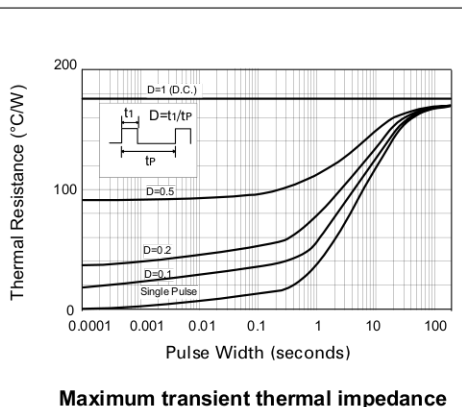
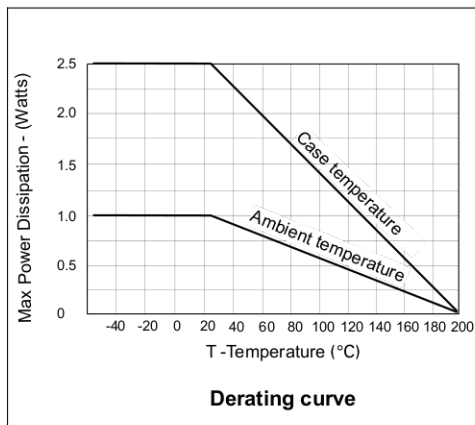
PARAMETER	SYMBOL	ZTX750			ZTX751			UNIT	CONDITIONS.
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
Transition Frequency	f_T	100	140		100	140		MHz	$I_C = -100\text{mA}$, $V_{CE} = -5\text{V}$ $f = 100\text{MHz}$
Switching Times	t_{on}		40			40		ns	$I_C = -500\text{mA}$, $V_{CC} = -10\text{V}$ $I_B = I_{B2} = -50\text{mA}$
	t_{off}		450			450		ns	
Output Capacitance	C_{obo}			30			30	pF	$V_{CB} = 10\text{V}$ $f = 1\text{MHz}$

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

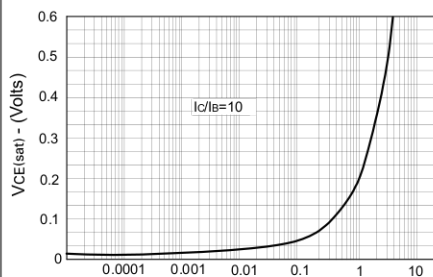
THERMAL CHARACTERISTICS

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

$\dagger$ Device mounted on P.C.B. with copper equal to 1 sq. Inch minimum.

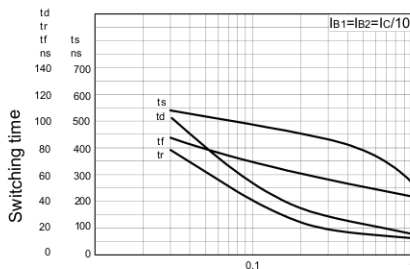


TYPICAL CHARACTERISTICS



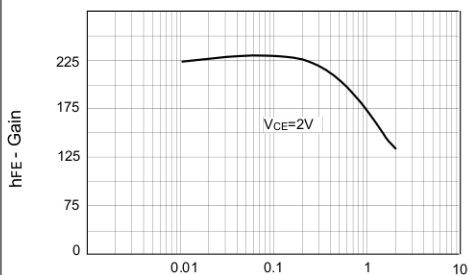
I_C - Collector Current (Amps)

$V_{CE(sat)}$ v I_C



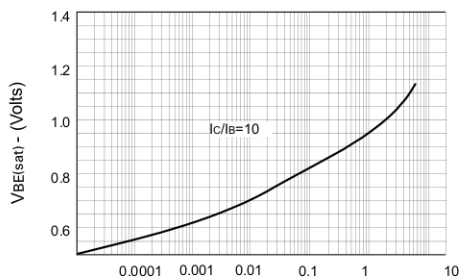
I_C - Collector Current (Amps)

Switching Speeds



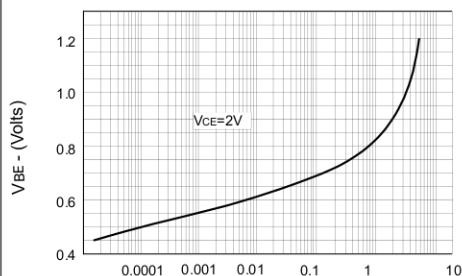
I_C - Collector Current (Amps)

h_{FE} v I_C



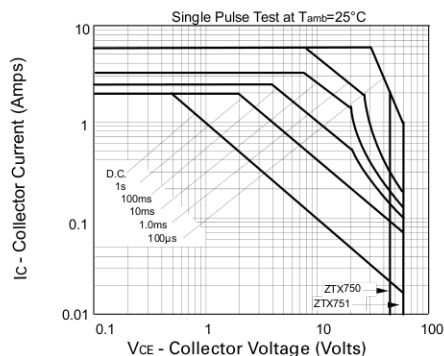
I_C - Collector Current (Amps)

$V_{BE(sat)}$ v I_C



I_C - Collector Current (Amps)

$V_{BE(on)}$ v I_C



V_{CE} - Collector Voltage (Volts)

Safe Operating Area