

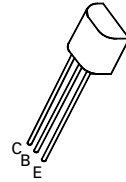
NPN SILICON PLANAR MEDIUM POWER HIGH VOLTAGE TRANSISTORS

ISSUE 2 – JULY 94

FEATURES

- * 300 Volt V_{CEO}
- * 0.5 Amp continuous current
- * P_{tot} =1 Watt

ZTX656
ZTX657



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

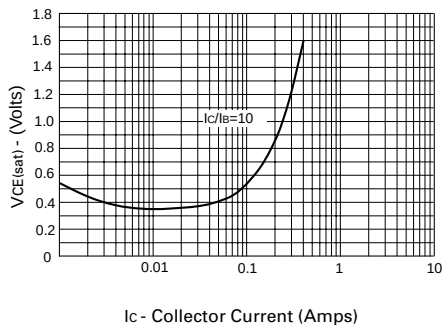
PARAMETER	SYMBOL	ZTX656	ZTX657	UNIT
Collector-Base Voltage	V_{CBO}	200	300	V
Collector-Emitter Voltage	V_{CEO}	200	300	V
Emitter-Base Voltage	V_{EBO}	5		V
Peak Pulse Current	I_{CM}	1		A
Continuous Collector Current	I_C	0.5		A
Power Dissipation at $T_{amb}=25^{\circ}\text{C}$	P_{tot}	1		W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200		$^{\circ}\text{C}$

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

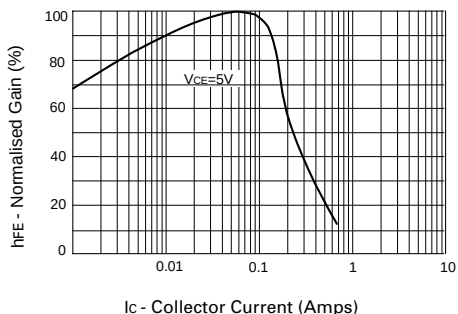
PARAMETER	SYMBOL	ZTX656		ZTX657		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	200		300		V	$I_C=100\mu\text{A}$, $I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	200		300		V	$I_C=10\text{mA}$, $I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		5		V	$I_E=100\mu\text{A}$, $I_C=0$
Collector Cut-Off Current	I_{CBO}		100		100	nA	$V_{CB}=160\text{V}$, $I_E=0$ $V_{CB}=200\text{V}$, $I_E=0$
Emitter Cut-Off Current	I_{EBO}		100		100	nA	$V_{EB}=3\text{V}$, $I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.5		0.5	V	$I_C=100\text{mA}$, $I_B=10\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1		1	V	$I_C=100\text{mA}$, $I_B=10\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1		1	V	$I_C=100\text{mA}$, $V_{CE}=5\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	50 40		50 40			$I_C=100\text{mA}$, $V_{CE}=5\text{V}$ $I_C=10\text{mA}$, $V_{CE}=5\text{V}$
Transition Frequency	f_T	30		30		MHz	$I_C=10\text{mA}$, $V_{CE}=20\text{V}$ $f=20\text{MHz}$

ZTX656 ZTX657

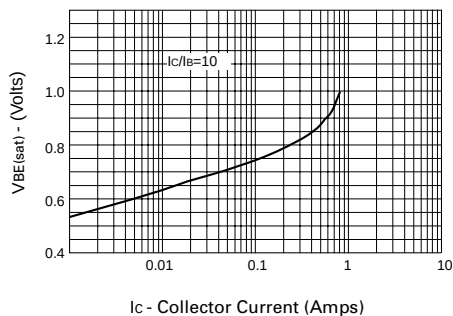
TYPICAL CHARACTERISTICS



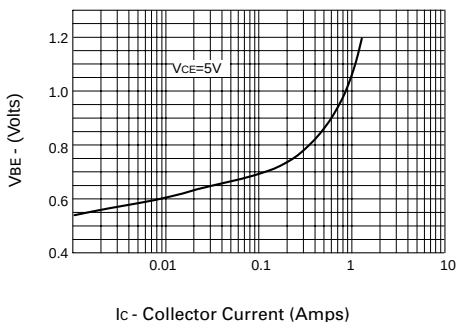
$V_{CE(sat)}$ v I_C



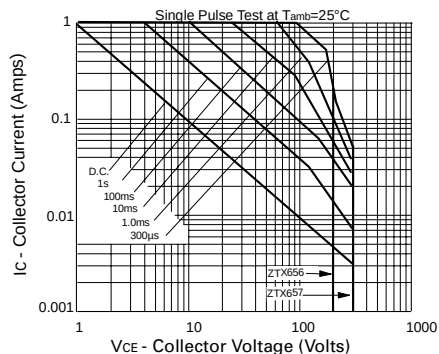
h_{FE} v I_C



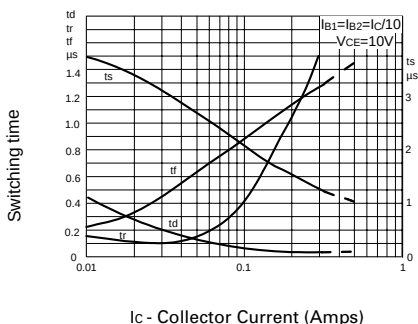
$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area



Switching Speeds