

NPN SILICON PLANAR

MEDIUM POWER TRANSISTORS

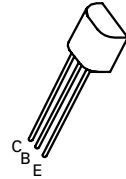
ISSUE 2 – JULY 94

FEATURES

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

ZTX654

ZTX655



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	ZTX654	ZTX655	UNIT
Collector-Base Voltage	V_{CBO}	125	150	V
Collector-Emitter Voltage	V_{CEO}	125	150	V
Emitter-Base Voltage	V_{EBO}	5		V
Peak Pulse Current	I_{CM}	2		A
Continuous Collector Current	I_C	1		A
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	1		W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200		$^{\circ}C$

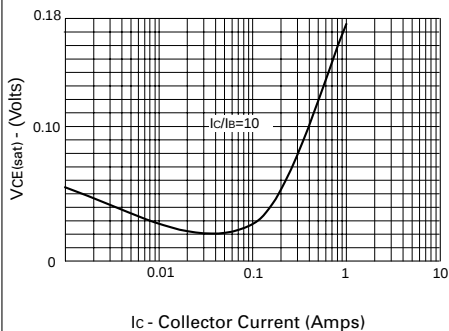
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

PARAMETER	SYMBOL	ZTX654		ZTX655		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	125		150		V	$I_C=100\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	125		150		V	$I_C=10mA, I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		5		V	$I_E=100\mu A, I_C=0$
Collector Cut-Off Current	I_{CBO}		100		100	nA	$V_{CB}=100V, I_E=0$ $V_{CB}=125V, I_E=0$
Emitter Cut-Off Current	I_{EBO}		100		100	nA	$V_{EB}=3V, I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.5 0.5		0.5 0.5	V V	$I_C=500mA, I_B=50mA^*$ $I_C=1A, I_B=200mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.1		1.1	V	$I_C=500mA, I_B=50mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.0		1.0	V	$I_C=500mA, V_{CE}=5V^*$
Static Forward Current Transfer Ratio	h_{FE}	50 50 20		50 50 20			$I_C=10mA, V_{CE}=5V$ $I_C=500mA, V_{CE}=5V^*$ $I_C=1A, V_{CE}=5V^*$
Transition Frequency	f_T	30		30		MHz	$I_C=10mA, V_{CE}=20V$ $f=20MHz$
Output Capacitance	C_{obo}		20		20	pF	$V_{CB}=20V, f=1MHz$

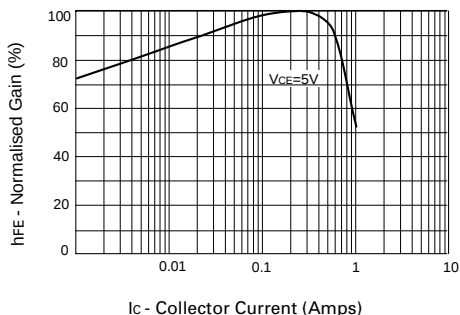
ZTX654

ZTX655

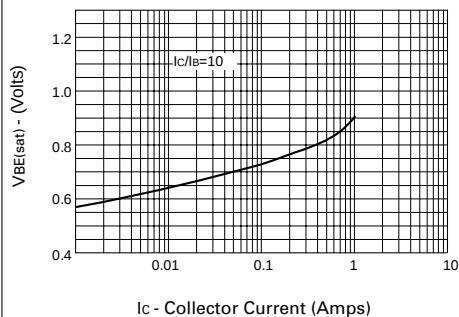
TYPICAL CHARACTERISTICS



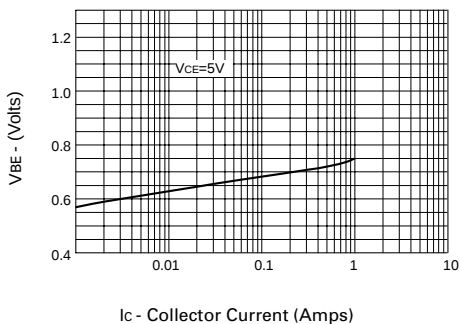
$V_{CE(sat)}$ v I_C



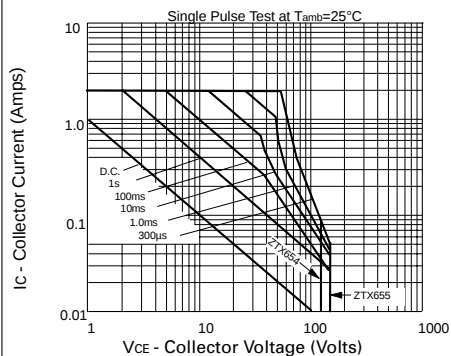
hFE v I_C



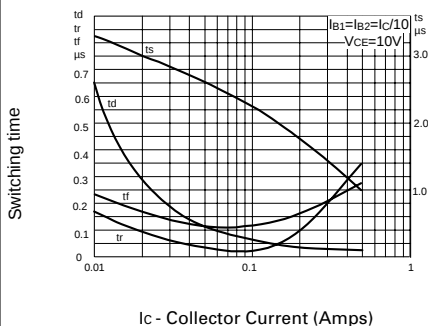
$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area



Switching Speeds