

**ZTX454
ZTX455**

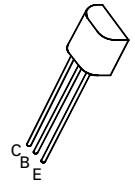
**NPN SILICON PLANAR
MEDIUM POWER TRANSISTORS**

**ZTX454
ZTX455**

ISSUE 2 - MARCH 1994

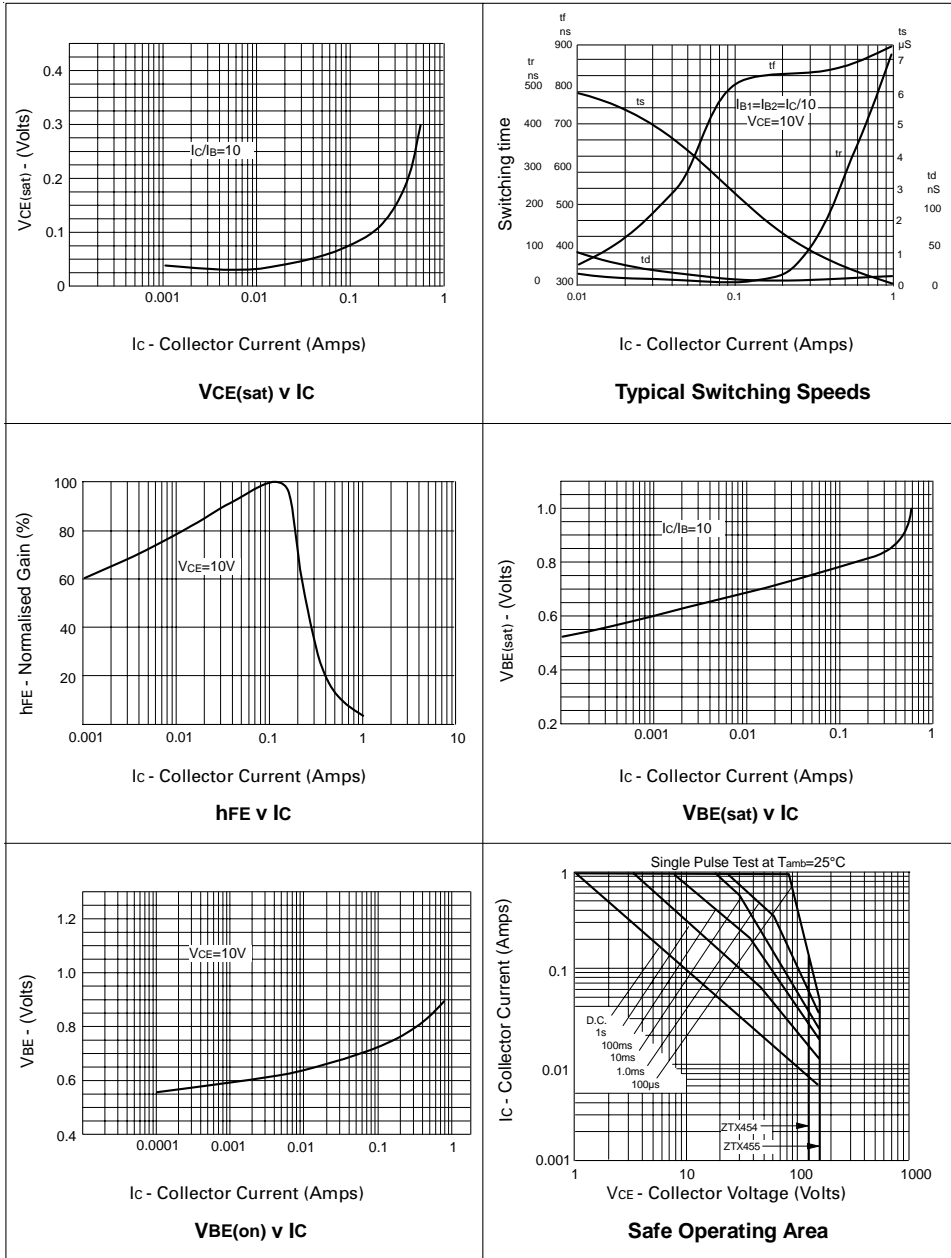
FEATURES

- * 140 Volt V_{CE0}
- * 1 Amp continuous current
- * $P_{tot} = 1$ Watt



**E-Line
TO92 Compatible**

TYPICAL CHARACTERISTICS



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	ZTX454	ZTX455	UNIT
Collector-Base Voltage	V_{CBO}	140	160	V
Collector-Emitter Voltage	V_{CEO}	120	140	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 $T_{amb}=25^\circ\text{C}$	P_{tot}		1	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200		$^\circ\text{C}$

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

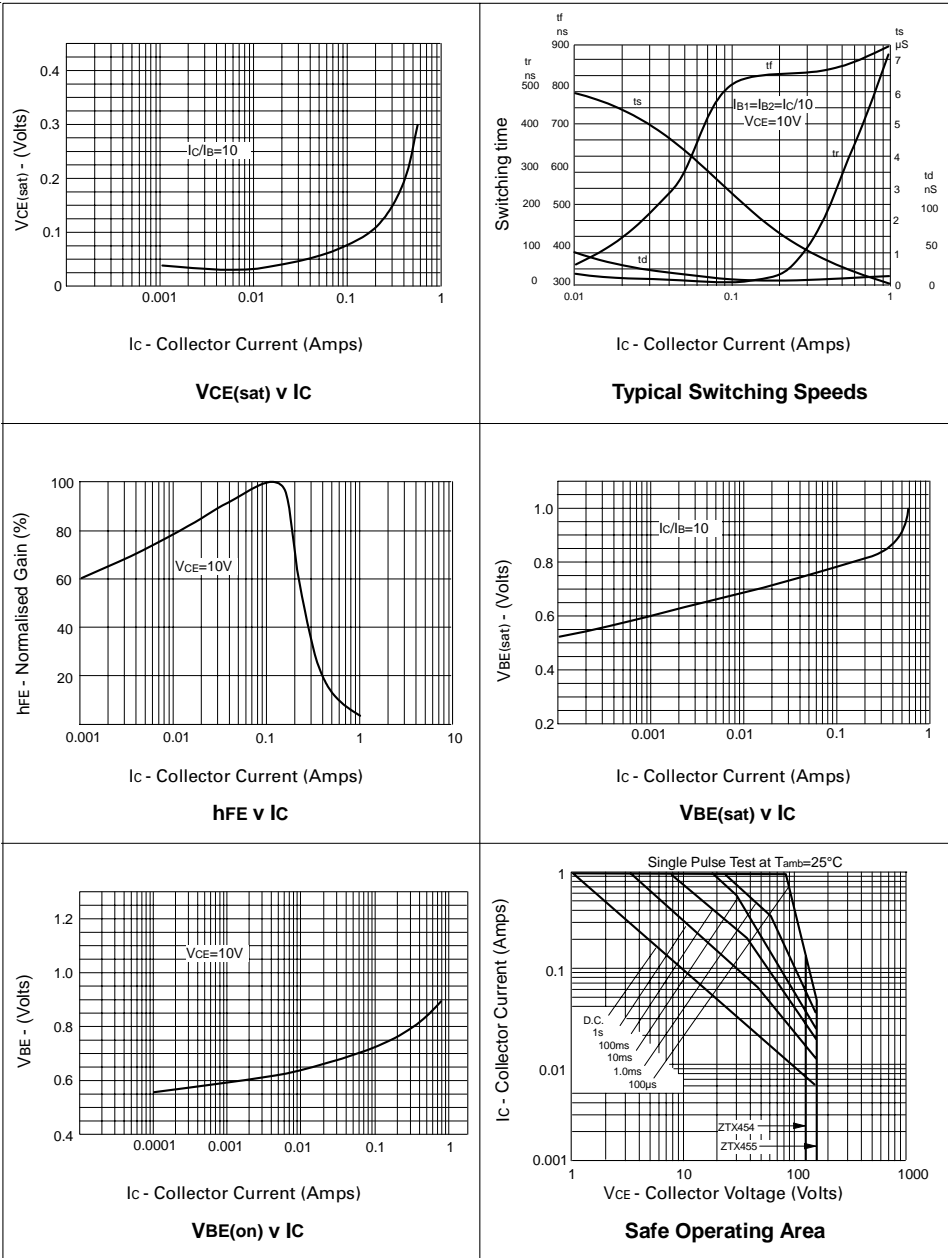
PARAMETER	SYMBOL	ZTX454		ZTX455		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	140		160		V	$I_C=100\mu\text{A}$
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	120		140		V	$I_C=10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		5		V	$I_E=100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}		0.1		0.1	μA	$V_{CB}=140\text{V}$ $V_{CE}=120\text{V}$
Emitter Cut-Off Current	I_{EBO}		0.1		0.1	μA	$V_{EB}=4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.7 1.0		0.7	V	$I_C=150\text{mA}, I_B=15\text{mA}$ $I_C=200\text{mA}, I_B=20\text{mA}$
Static Forward Current Transfer Ratio	h_{FE}	100 30 10†	300	100 10†	300		$I_C=150\text{mA}, V_{CE}=10\text{V}^*$ $I_C=200\text{mA}, V_{CE}=1\text{V}^*$ $I_C=1\text{A}, V_{CE}=10\text{V}^*$
Transition Frequency	f_T	100		100		MHz	$I_C=50\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$
Output Capacitance	C_{obo}		15		15	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$

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

† Typical

ZTX454 ZTX455

TYPICAL CHARACTERISTICS



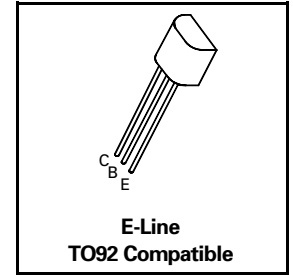
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FEATURES

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- * P_{tot} = 1 Watt

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ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	ZTX454	ZTX455	UNIT
Collector-Base Voltage	V _{CBO}	140	160	V
Collector-Emitter Voltage	V _{CEO}	120	140	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°C	P _{tot}	1		W
Operating and Storage Temperature Range	T _j :T _{stg}	-55 to +200		°C

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

PARAMETER	SYMBOL	ZTX454		ZTX455		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	V _{(BR)CBO}	140		160		V	I _C =100μA
Collector-Emitter Sustaining Voltage	V _{CEO(sus)}	120		140		V	I _C =10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	5		5		V	I _E =100μA
Collector Cut-Off Current	I _{CBO}		0.1		0.1	μA	V _{CB} =140V V _{CE} =120V
Emitter Cut-Off Current	I _{EBO}		0.1		0.1	μA	V _{EB} =4V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		0.7 1.0		0.7	V	I _C =150mA, I _B =15mA I _C =200mA, I _B =20mA
Static Forward Current Transfer Ratio	h _{FE}	100 30 10†	300	100 10†	300		I _C =150mA, V _{CE} =10V* I _C =200mA, V _{CE} =1V* I _C =1A, V _{CE} =10V*
Transition Frequency	f _T	100		100		MHz	I _C =50mA, V _{CE} =10V f=100MHz
Output Capacitance	C _{obo}		15		15	pF	V _{CB} =10V, f=1MHz

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

† Typical

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