



# ZTX855

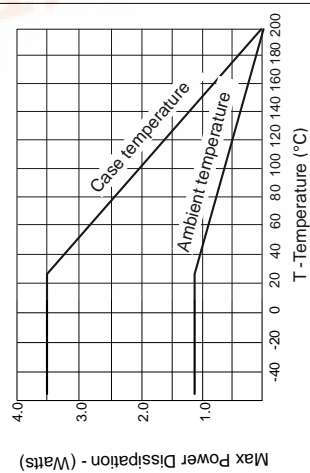
## ELECTRICAL CHARACTERISTICS (at T<sub>amb</sub> = 25°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	V <sub>BE(on)</sub>		0.88	1	V	I <sub>C</sub> =4A, V <sub>CE</sub> =5V*
Static Forward Current Transfer Ratio	h <sub>FE</sub>	100	200	300		I <sub>C</sub> =10mA, V <sub>CE</sub> =5V
		100	200	300		I <sub>C</sub> =1A, V <sub>CE</sub> =5V*
		35	55	100		I <sub>C</sub> =4A, V <sub>CE</sub> =5V*
			10	20		I <sub>C</sub> =10A, V <sub>CE</sub> =5V*
Transition Frequency	f <sub>T</sub>		90		MHz	I <sub>C</sub> =100mA, V <sub>CE</sub> =10V, f=50MHz
Output Capacitance	C <sub>obo</sub>		22		pF	V <sub>CB</sub> =20V, f=1MHz
Switching Times	t <sub>on</sub>		66		ns	I <sub>C</sub> =1A, I <sub>B</sub> =100mA
	t <sub>off</sub>		2130		ns	I <sub>B2</sub> =100mA, V <sub>CC</sub> =50V

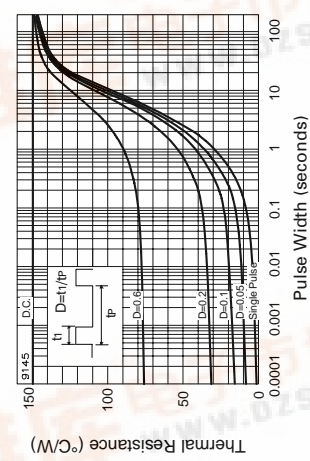
\*Measured under pulsed conditions. Pulse width=300µs. Duty cycle ≤2%

## HERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance: Junction to Ambient	R <sub>th(j-amb)</sub>	150	°C/W
Junction to Case	R <sub>th(j-case)</sub>	50	°C/W



Derating curve



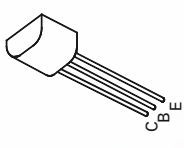
Maximum transient thermal impedance

# NPN SILICON PLANAR MEDIUM POWER HIGH CURRENT TRANSISTOR

ISSUE 2 - MARCH 94

## FEATURES

- \* 150 Volt V<sub>CEO</sub>
- \* 4 Amps continuous current
- \* Up to 10 Amps peak current
- \* Very low saturation voltage
- \* P<sub>tot</sub> = 1.2 Watt



E-Line  
TO92 Compatible

## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	250	V
Collector-Emitter Voltage	V <sub>CEO</sub>	150	V
Emitter-Base Voltage	V <sub>EBO</sub>	6	V
Peak Pulse Current	I <sub>CM</sub>	10	A
Continuous Collector Current	I <sub>C</sub>	4	A
Practical Power Dissipation*	P <sub>totp</sub>	1.58	W
Power Dissipation at T <sub>amb</sub> =25°C	P <sub>tot</sub>	1.2	W
Operating and Storage Temperature Range	T <sub>j</sub> :T <sub>stg</sub>	-55 to +200	°C

\*The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 1 inch square minimum

## ELECTRICAL CHARACTERISTICS (at T<sub>amb</sub> = 25°C unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	250	375		V	I <sub>C</sub> =100µA
Collector-Emitter Breakdown Voltage	V <sub>(BR)CER</sub>	250	375		V	I <sub>C</sub> =1µA, R <sub>B</sub> ≤ 1KΩ
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	150	180		V	I <sub>C</sub> =10mA*
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	6	8		V	I <sub>E</sub> =100µA
Collector Cut-Off Current	I <sub>CBO</sub>			50	nA	V <sub>CB</sub> =200V
				1	µA	V <sub>CB</sub> =200V, T <sub>amb</sub> =100°C
Collector Cut-Off Current	I <sub>CER</sub> R ≤ 1KΩ			50	nA	V <sub>CB</sub> =200V
				1	µA	V <sub>CB</sub> =200V, T <sub>amb</sub> =100°C
Emitter Cut-Off Current	I <sub>EBO</sub>			10	nA	V <sub>EB</sub> =6V
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	20	40		mV	I <sub>C</sub> =100mA, I <sub>B</sub> =5mA*
		35	60		mV	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA*
		60	100		mV	I <sub>C</sub> =1A, I <sub>B</sub> =100mA*
		210	260		mV	I <sub>C</sub> =4A, I <sub>B</sub> =400mA*
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>		960	1100	mV	I <sub>C</sub> =4A, I <sub>B</sub> =400mA*

查询ZTX855供应商

捷多邦, 专业PCB打样工厂, 24小时加急出货

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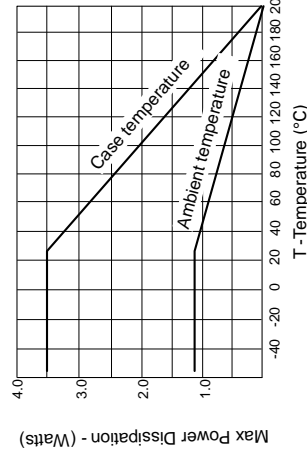
## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ )

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.88	1	V	$I_C=4A, V_{CE}=5V^*$
Static Forward Current Transfer Ratio	$h_{FE}$	100	200	300		$I_C=10mA, V_{CE}=5V$
		100	200	300		$I_C=1A, V_{CE}=5V^*$
		35	55	10		$I_C=4A, V_{CE}=5V^*$
			10			$I_C=10A, V_{CE}=5V^*$
Transition Frequency	$f_T$		90		MHz	$I_C=100mA, V_{CE}=10V, f=50MHz$
Output Capacitance	$C_{obo}$		22		pF	$V_{CB}=20V, f=1MHz$
Switching Times	$t_{on}$		66		ns	$I_C=1A, I_B=100mA$
	$t_{off}$		2130		ns	$I_B=100mA, V_{CC}=50V$

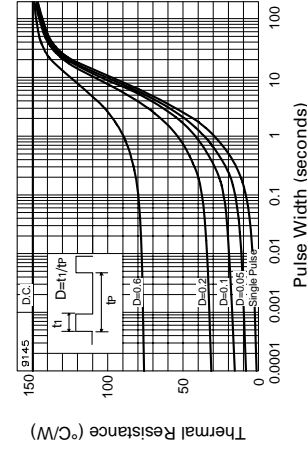
Measured under pulsed conditions. Pulse width=300 $\mu$ s. Duty cycle  $\leq$ 2%

## HERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance: Junction to Ambient	$R_{th(j-amb)}$	150	$^{\circ}\text{C/W}$
Junction to Case	$R_{th(j-case)}$	50	$^{\circ}\text{C/W}$



Derating curve



Maximum transient thermal impedance

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ISSUE 2 - MARCH 94

## FEATURES

- \* 150 Volt  $V_{CEO}$
- \* 4 Amps continuous current
- \* Up to 10 Amps peak current
- \* Very low saturation voltage
- \*  $P_{tot} = 1.2$  Watt

## ABSOLUTE MAXIMUM RATINGS.

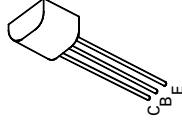
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	250	V
Collector-Emitter Voltage	$V_{CEO}$	150	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Peak Pulse Current	$I_{CM}$	10	A
Continuous Collector Current	$I_C$	4	A
Practical Power Dissipation*	$P_{totp}$	1.58	W
Power Dissipation at $T_{amb}=25^{\circ}\text{C}$	$P_{tot}$	1.2	W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 to +200	$^{\circ}\text{C}$

\*The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 1 inch square minimum

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	250	375		V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CE}$	250	375		V	$I_C=1\mu A, R_B \leq 1K\Omega$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	150	180		V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6	8		V	$I_E=100\mu A$
Collector Cut-Off Current	$I_{CBO}$	50			nA	$V_{CB}=200V$
		1			$\mu A$	$V_{CB}=200V, T_{amb}=100^{\circ}\text{C}$
Collector Cut-Off Current	$I_{CER}, R \leq 1K\Omega$	50			nA	$V_{CB}=200V$
		1			$\mu A$	$V_{CB}=200V, T_{amb}=100^{\circ}\text{C}$
Emitter Cut-Off Current	$I_{EBO}$	10			nA	$V_{EB}=6V$
		40	20		mV	$I_C=100mA, I_B=5mA^*$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	60	35		mV	$I_C=500mA, I_B=50mA^*$
		100	60		mV	$I_C=1A, I_B=100mA^*$
		260	210		mV	$I_C=4A, I_B=400mA^*$
		1100	960		mV	$I_C=4A, I_B=400mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$					

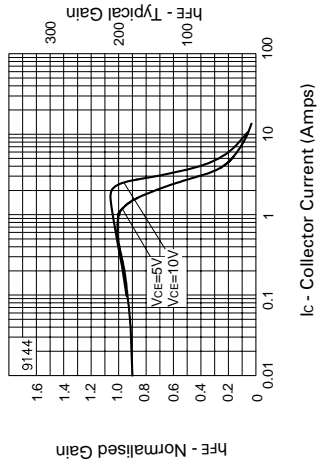
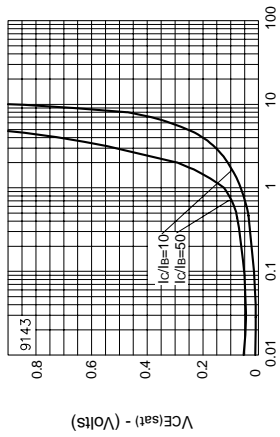
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TO92 Compatible

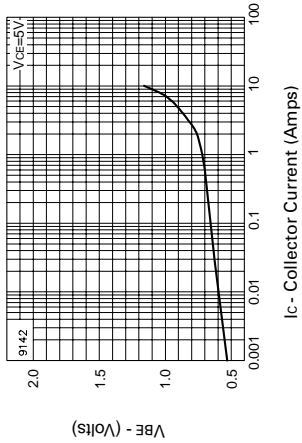
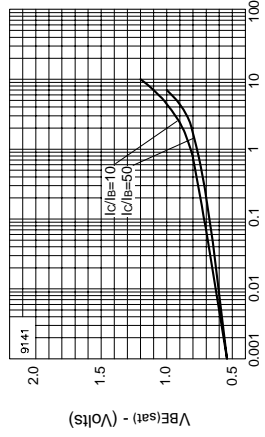
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## TYPICAL CHARACTERISTICS



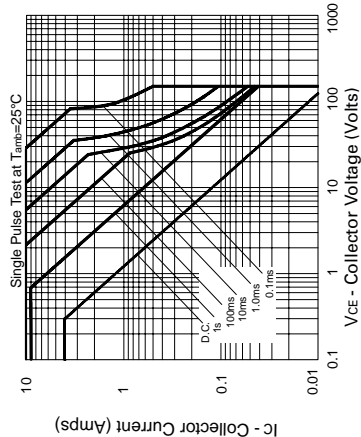
VCE(sat) v IC

hFE v IC



VBE(sat) v IC

VBE(on) v IC



Single Pulse Test at  $T_{amb}=25^{\circ}C$

Safe Operating Area