



ZTX851

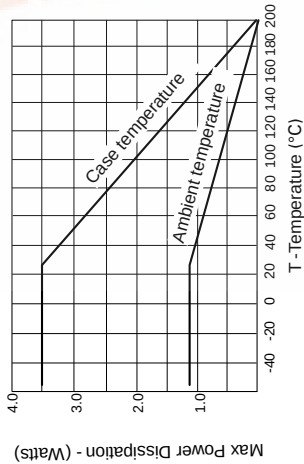
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	V _{BE(on)}		840	950	mV	I _C =4A, V _{CE} =1V*
Static Forward Current Transfer Ratio	h _{FE}	100	200	300		I _C =10mA, V _{CE} =1V
		100	200			I _C =2A, V _{CE} =1V*
		75	120			I _C =5A, V _{CE} =1V*
		25	50			I _C =10A, V _{CE} =1V*
Transition Frequency	f _T		130		MHz	I _C =100mA, V _{CE} =10V f=50MHz
Output Capacitance	C _{obo}		45		pF	V _{CE} =10V, f=1MHz
Switching Times	t _{on}		45		ns	I _C =1A, I _B =100mA
	t _{off}		1100		ns	I _{B2} =100mA, V _{CE} =10V

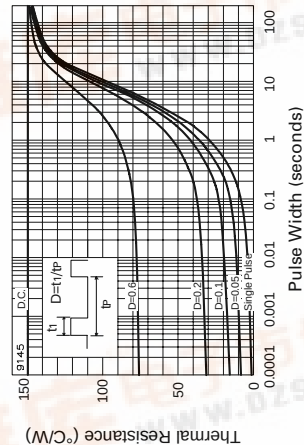
Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤2%

HERMAL CHARACTERISTICS

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



Derating curve



Maximum transient thermal impedance

NPN SILICON PLANAR MEDIUM POWER
HIGH CURRENT TRANSISTOR

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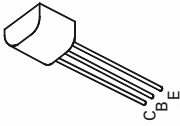
ISSUE 2 - AUGUST 94

FEATURES

- * 60 Volt V_{CEO}
- * 5 Amps continuous current
- * Up to 20 Amps peak current
- * Very low saturation voltage
- * P_{tot}=1.2 Watts
- * Emergency lighting circuits

APPLICATIONS

- * Emergency lighting circuits



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CBO}	150	V
Collector-Emitter Voltage	V _{CEO}	60	V
Emitter-Base Voltage	V _{EB0}	6	V
Peak Pulse Current	I _{CM}	20	A
Continuous Collector Current	I _C	5	A
Practical Power Dissipation*	P _{totp}	1.58	W
Power Dissipation at T _{amb} =25°C	P _{tot}	1.2	W
Operating and Storage Temperature Range	T _J ; T _{stg}	-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_{amb} = 25°C unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	150	220		V	I _C =100μA
Collector-Emitter Breakdown Voltage	V _{(BR)CE}	150	220		V	I _C =1μA, R _B ≤1KΩ
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	60	85		V	I _C =10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	6	8		V	I _E =100μA
Collector Cut-Off Current	I _{CBO}			50	nA	V _{CE} =120V, T _{amb} =100°C
Collector Cut-Off Current	I _{CE}			50	μA	V _{CE} =120V, T _{amb} =100°C
Collector Cut-Off Current	I _{CE}			50	nA	V _{CE} =120V, T _{amb} =100°C
Collector Cut-Off Current	I _{CE}			10	nA	V _{CE} =120V, T _{amb} =100°C
Collector-Emitter Saturation Voltage	V _{CE(sat)}		10	50	mV	I _C =0.1A, I _B =5mA*
Collector-Emitter Saturation Voltage	V _{CE(sat)}		50	100	mV	I _C =1A, I _B =50mA*
Collector-Emitter Saturation Voltage	V _{CE(sat)}		100	150	mV	I _C =2A, I _B =50mA*
Collector-Emitter Saturation Voltage	V _{CE(sat)}		200	250	mV	I _C =5A, I _B =200mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		920	1050	mV	I _C =4A, I _B =200mA*

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NPN SILICON PLANAR MEDIUM POWER
HIGH CURRENT TRANSISTOR

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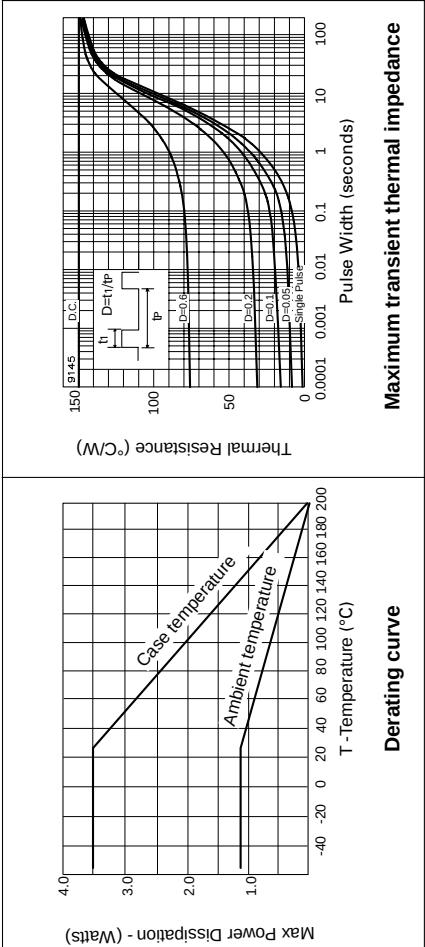
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Output Capacitance	C _{obo}		45		pF	V _{CE} =10V, f=1MHz
Switching Times	t _{on}		45		ns	I _C =1A, I _B =100mA
	t _{off}		1100		ns	I _{B2} =100mA, V _{CE} =10V

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

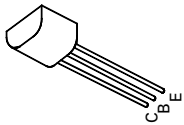
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Collector-Emitter Breakdown Voltage	V _{BR/CE}	150	220		V	I _C =1µA, R _B ≤1KΩ
Collector-Emitter Breakdown Voltage	V _{BR/CEO}	60	85		V	I _C =10mA*
Emitter-Base Breakdown Voltage	V _{BR/EB0}	6	8		V	I _E =100µA
Collector Cut-Off Current	I _{CBO}				nA	V _{CE} =120V V _{CE} =120V, T _{amb} =100°C
Collector Cut-Off Current	I _{CER} R ≤1KΩ				nA	V _{CE} =120V V _{CE} =120V, T _{amb} =100°C
Emitter Cut-Off Current	I _{EB0}				nA	V _{EB} =6V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		10	50	mV	I _C =0.1A, I _B =5mA*
			50	100	mV	I _C =1A, I _B =50mA*
			100	150	mV	I _C =2A, I _B =50mA*
			200	250	mV	I _C =5A, I _B =200mA*
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TYPICAL CHARACTERISTICS

