

ZTX948

PNP SILICON PLANAR MEDIUM POWER
HIGH CURRENT TRANSISTOR
ZTX948

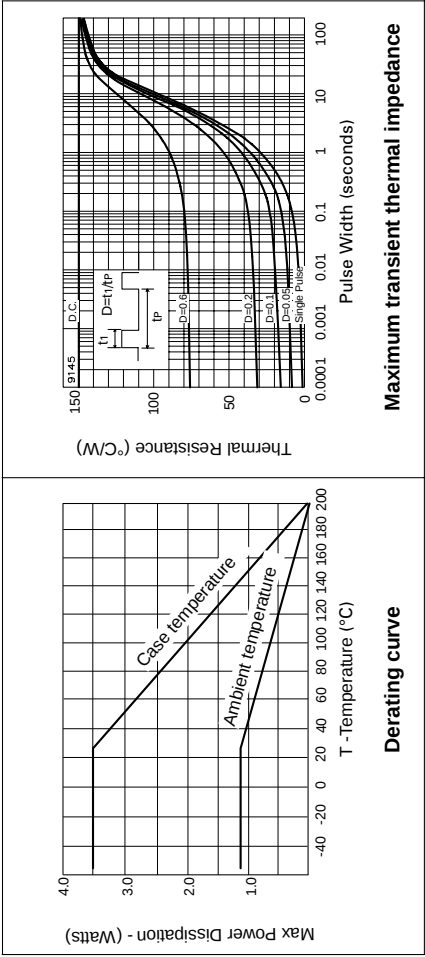
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	V _{BE(on)}		-860	-1000	mV	I _C =-5A, V _{CE} =-1V*
Static Forward Current Transfer Ratio	h _{FE}	100	200	300		I _C =-10mA, V _{CE} =-1V
		100	200			I _C =-1A, V _{CE} =-1V*
		75	160			I _C =-5A, V _{CE} =-1V*
		60	130			I _C =-10A, V _{CE} =-1V*
		15	40			I _C =-20A, V _{CE} =-1V*
Transition Frequency	f _T		80		MHz	I _C =-100mA, V _{CE} =-10V f=50MHz
Output Capacitance	C _{obo}		163		pF	V _{CE} =-10V, f=1MHz
Switching Times	t _{on}		120		ns	I _C =-4A, I _B =-400mA
	t _{off}		126		ns	I _{B2} =-400mA, V _{CE} =-10V

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

THERMAL CHARACTERISTICS

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



FEATURES

- * 4.5 Amps continuous current
- * Up to 20 Amps peak current
- * Very low saturation voltage
- * Excellent gain up to 20 Amps
- * Very low leakage
- * Exceptional gain linearity down to 10mA
- * Spice model available

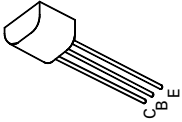
ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CBO}	-40	V
Collector-Emitter Voltage	V _{CEO}	-20	V
Emitter-Base Voltage	V _{EB0}	-6	V
Peak Pulse Current	I _{CM}	-20	A
Continuous Collector Current	I _C	-4.5	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 ;Tstg	-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

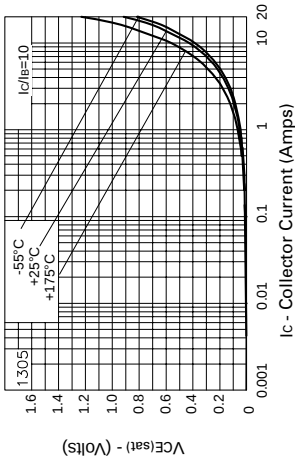
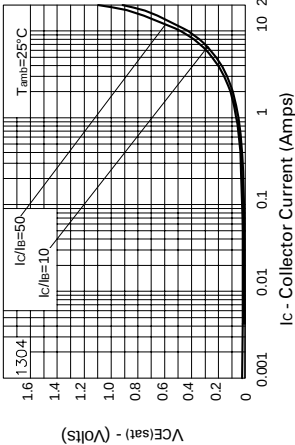
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-40	-55		V	I _C =-100μA
Collector-Emitter Breakdown Voltage	V _{(BR)CEr}	-40	-55		V	I _C =-1μA, R _B ≤1KΩ
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-20	-30		V	I _C =-10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-6	-8		V	I _E =-100μA
Collector Cut-Off Current	I _{CBO}			-50 -1	nA μA	V _{CE} =-30V, T _{amb} =100°C
Collector Cut-Off Current	I _{CEr} R ≤1KΩ			-50 -1	nA μA	V _{CE} =-30V, T _{amb} =100°C
Emitter Cut-Off Current	I _{EBO}			-10	nA	V _{EB} =-6V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		-45 -90 -180 -230		mV	I _C =-0.5A, I _B =-10mA*
				-100 -150 -250 -310	mV	I _C =-2A, I _B =-200mA*
					mV	I _C =-4A, I _B =-400mA*
					mV	I _C =-5A, I _B =-300mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		-960	-1100	mV	I _C =-5A, I _B =-300mA*



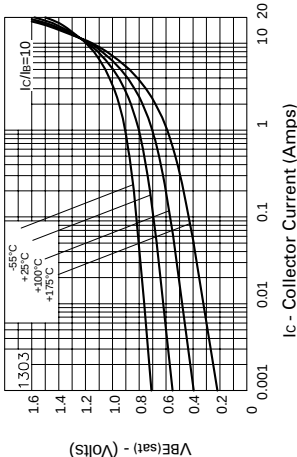
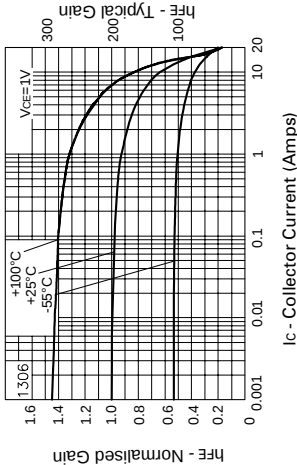
E-Line
TO92 Compatible

TYPICAL CHARACTERISTICS



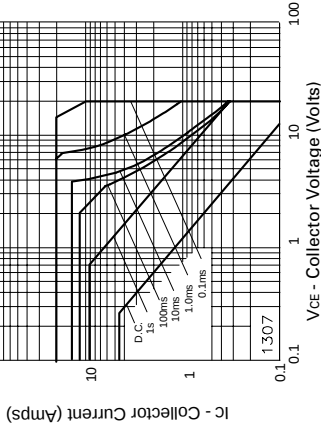
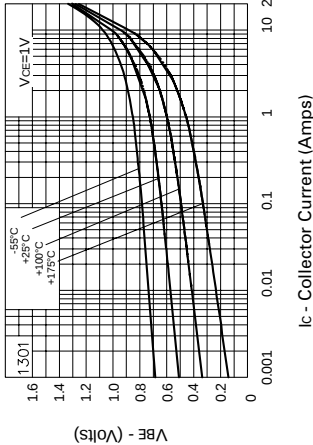
$V_{CE(sat)}$ v I_C

$V_{CE(sat)}$ v I_C



h_{FE} v I_C

$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C

Safe Operating Area