

ZTX953

PNP SILICON PLANAR MEDIUM POWER
HIGH CURRENT TRANSISTOR

ZTX953

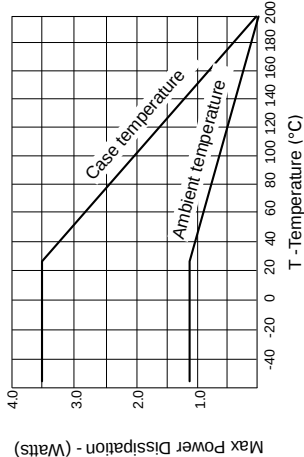
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	V _{BE(on)}		-880	-1100	mV	I _C =-4A, V _{CE} =-1V*
Static Forward Current Transfer	h _{FE}	100	200	300		I _C =-10mA, V _{CE} =-1V*
		100	200			I _C =-1A, V _{CE} =-1V*
		50	90			I _C =-3A, V _{CE} =-1V*
		30	50			I _C =-4A, V _{CE} =-1V*
Transition Frequency	f _T		15		MHz	I _C =-10A, V _{CE} =-1V*
			125			I _C =-100mA, V _{CE} =-10V, f=50MHz
Output Capacitance	C _{obo}		65		pF	V _{CE} =-10V, f=1MHz
Switching Times	t _{on}		110		ns	I _C =-2A, I _B =-200mA
	t _{off}		460		ns	I _B =-200mA, V _{CE} =-10V

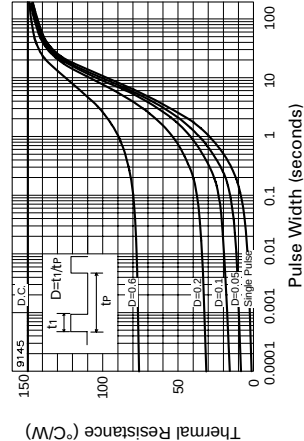
*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤2%

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



Derating curve



Maximum transient thermal impedance

FEATURES

- * 3.5 Amps continuous current
- * Up to 10 Amps peak current
- * Very low saturation voltage
- * Excellent gain up to 10 Amps
- * Spice model available

ABSOLUTE MAXIMUM RATINGS.

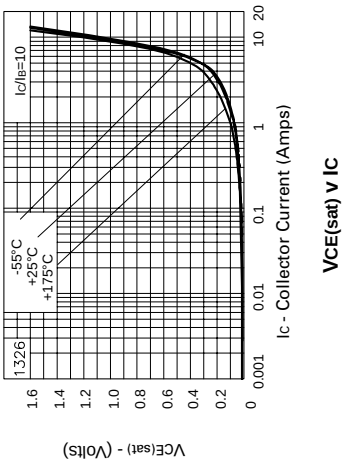
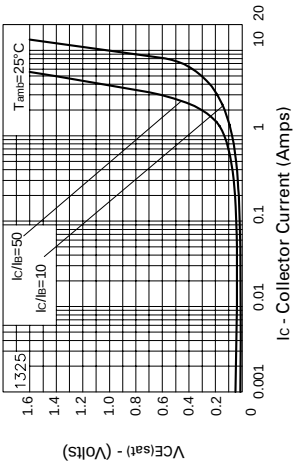
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CBO}	-140	V
Collector-Emitter Voltage	V _{CEO}	-100	V
Emitter-Base Voltage	V _{EB0}	-6	V
Peak Pulse Current	I _{CM}	-10	A
Continuous Collector Current	I _C	-3.5	A
Practical Power Dissipation*	P _{totp}	1.58	W
Power Dissipation at T _{amb} =25°C	P _{tot}	1.2	W
Operating and Storage Temperature Range	T _J ;T _{sg}	-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

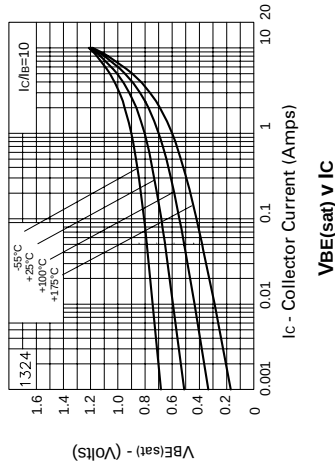
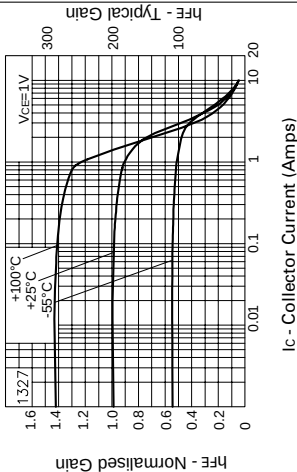
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-140	-170		V	I _C =-100μA
Collector-Emitter Breakdown Voltage	V _{(BR)CE}	-140	-170		V	I _C =-1μA, R _B ≤1KΩ
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-100	-120		V	I _C =-10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-6	-8		V	I _E =-100μA
Collector Cut-Off Current	I _{CBO}				nA	V _{CB} =-100V, V _{CE} =-100V, T _{amb} =100°C
Collector Cut-Off Current	I _{GER}	R≤1KΩ			nA	V _{CB} =-100V, T _{amb} =100°C
Emitter Cut-Off Current	I _{EBO}				nA	V _{EB} =-6V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		-20 -80 -140 -250	-50 -100 -170 -330	mV	I _C =-100mA, I _B =-10mA* I _C =-1A, I _B =-100mA* I _C =-2A, I _B =-200mA* I _C =-4A, I _B =-400mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		-960	-1100	mV	I _C =-4A, I _B =-400mA*

TYPICAL CHARACTERISTICS

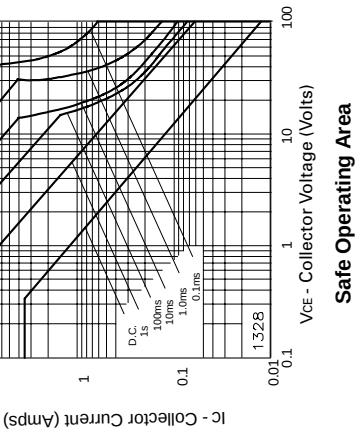
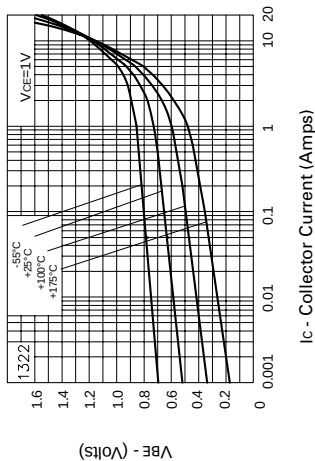


$V_{CE(sat)}$ V I_C



h_{FE} V I_C

$V_{BE(sat)}$ V I_C



$V_{BE(on)}$ V I_C

Safe Operating Area