

ZTX951

PNP SILICON PLANAR MEDIUM POWER HIGH CURRENT TRANSISTOR

ZTX951

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-850	-1000	mV	$I_C=4A, V_{CE}=1V^*$
Static Forward Current Transfer Ratio	h_{FE}	100	200			$I_C=10mA, V_{CE}=1V^*$
		100	200	300		$I_C=1A, V_{CE}=1V^*$
		75	120			$I_C=4A, V_{CE}=1V^*$
		10	25			$I_C=10A, V_{CE}=1V^*$
Transition Frequency	f_T		120		MHz	$I_C=100mA, V_{CE}=10V$ $f=50MHz$
Output Capacitance	C_{obo}		74		pF	$V_{CE}=10V, f=1MHz$
Switching Times	t_{on}		82		ns	$I_C=2A, I_B=200mA$
	t_{off}		350		ns	$I_B=200mA, V_{CC}=10V$

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

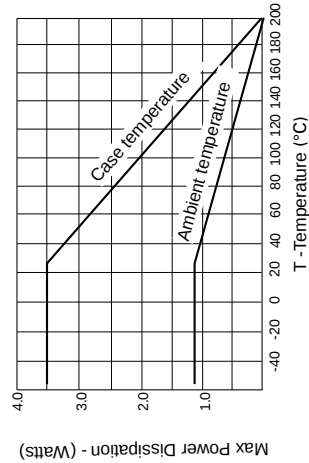
THERMAL CHARACTERISTICS

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

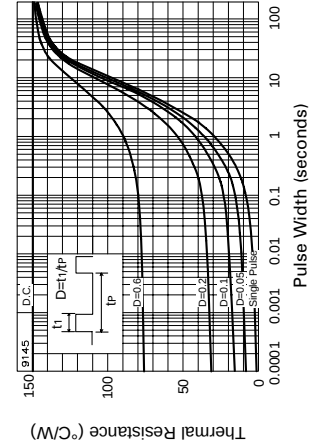
ELECTRICAL CHARACTERISTICS (at Tamb = 25°C unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-100	-140		V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	-100	-140		V	$I_C=1\mu A, R_B \leq 1K\Omega$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-60	-90		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 -1	nA μA	$V_{CB}=80V$ $V_{CE}=80V, T_{amb}=100^\circ C$
Collector Cut-Off Current	I_{CER} $R \leq 1K\Omega$			-50 -1	nA μA	$V_{CB}=80V$ $V_{CE}=80V, T_{amb}=100^\circ C$
Emitter Cut-Off Current	I_{EBO}			-10	nA	$V_{EB}=6V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-15 -60 -100 -120 -220	-50 -100 -160 -300	mV mV mV 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	$I_C=4A, I_B=400mA^*$

* 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

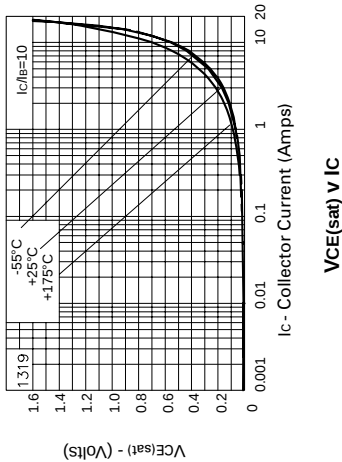
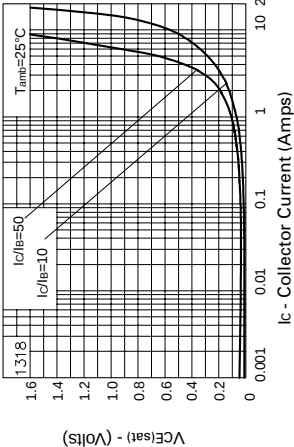


Derating curve



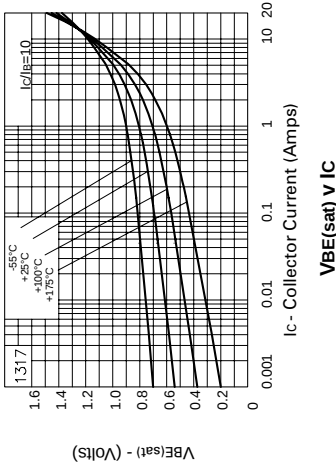
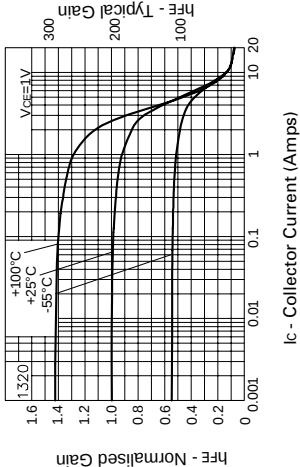
Maximum transient thermal impedance

TYPICAL CHARACTERISTICS



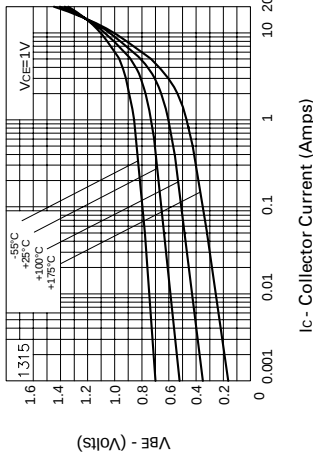
$V_{CE(sat)}$ v I_C

$V_{CE(sat)}$ v I_C

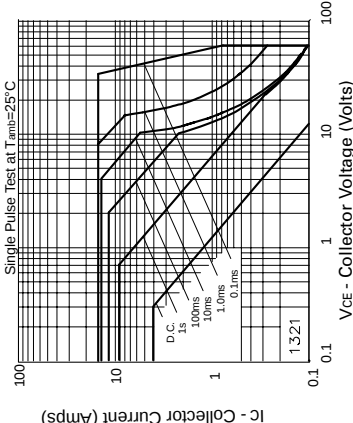


h_{FE} v I_C

$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area