



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



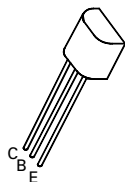
NPN SILICON PLANAR MEDIUM POWER HIGH CURRENT TRANSISTOR

ZTX853

ISSUE 3 - NOVEMBER 1995

FEATURES

- * 100 Volt V_{CE0}
- * 4 Amps continuous current
- * Up to 10 Amps peak current
- * Very low saturation voltage
- * $P_{tot}=1.2$ Watts



**E-Line
TO92 Compatible**

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	200	V
Collector-Emitter Voltage	V_{CEO}	100	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 $T_{amb}=25^{\circ}C$	P_{tot}	1.2	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200	$^{\circ}C$

*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 $T_{amb} = 25^{\circ}C$ unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	200	300		V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	200	300		V	$I_C=1\mu A, R_B \leq 1K\Omega$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	100	120		V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6	8		V	$I_E=100\mu A$
Collector Cut-Off Current	I_{CBO}			50 1	nA μA	$V_{CB}=150V$ $V_{CB}=150V, T_{amb}=100^{\circ}C$
Collector Cut-Off Current	I_{CER} $R \leq 1K\Omega$			50 1	nA μA	$V_{CB}=150V$ $V_{CB}=150V, T_{amb}=100^{\circ}C$
Emitter Cut-Off Current	I_{EBO}			10	nA	$V_{EB}=6V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		14 100 160	50 150 200	mV mV mV	$I_C=0.1A, I_B=5mA$ $I_C=2A, I_B=100mA$ $I_C=4A, I_B=400mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		960	1100	mV	$I_C=4A, I_B=400mA^*$

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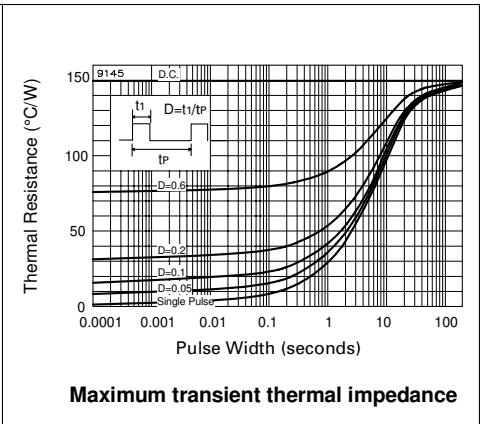
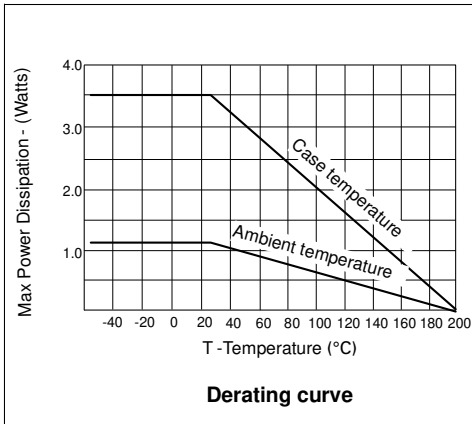
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		830	950	V	$I_C=4A, V_{CE}=2V^*$
Static Forward Current Transfer Ratio	h_{FE}	100 100 50 20	200 200 100 30	300		$I_C=10mA, V_{CE}=2V$ $I_C=2A, V_{CE}=2V^*$ $I_C=4A, V_{CE}=2V^*$ $I_C=10A, V_{CE}=2V^*$
Transition Frequency	f_T		130		MHz	$I_C=100mA, V_{CE}=10V$ $f=50MHz$
Output Capacitance	C_{obo}		35		pF	$V_{CB}=10V, f=1MHz$
Switching Times	t_{on} t_{off}		50 1650		ns ns	$I_C=1A, I_B=100mA$ $I_B=100mA, V_{CC}=10V$

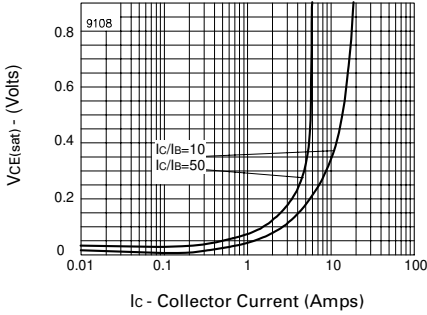
*Measured under pulsed conditions. Pulse width=300 μ s. Duty cycle \leq 2%

THERMAL CHARACTERISTICS

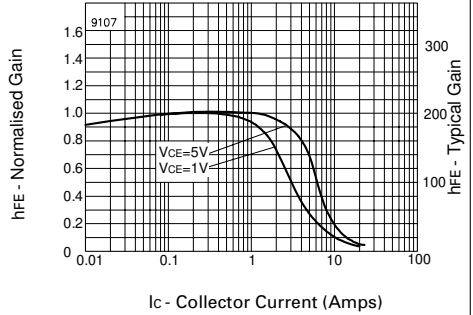
PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance: Junction to Ambient Junction to Case	$R_{th(j-amb)}$ $R_{th(j-case)}$	150 50	$^{\circ}\text{C/W}$ $^{\circ}\text{C/W}$



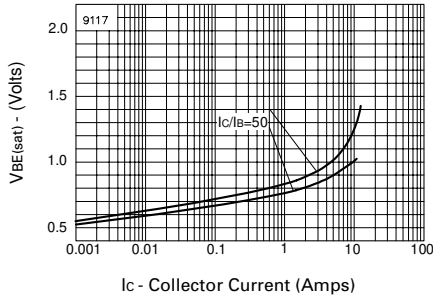
TYPICAL CHARACTERISTICS



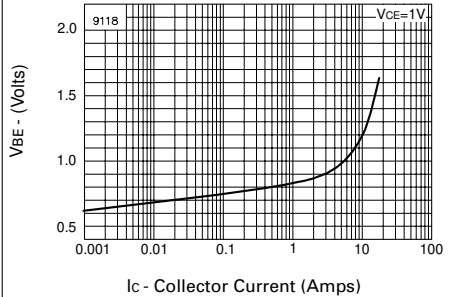
$V_{CE(sat)}$ v I_C



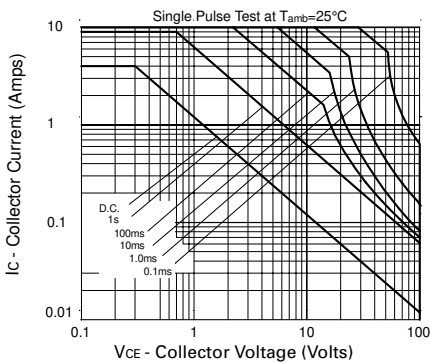
hFE v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area