THE DATASHEET OF

ZTX688BSTZ

ZTX688B

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

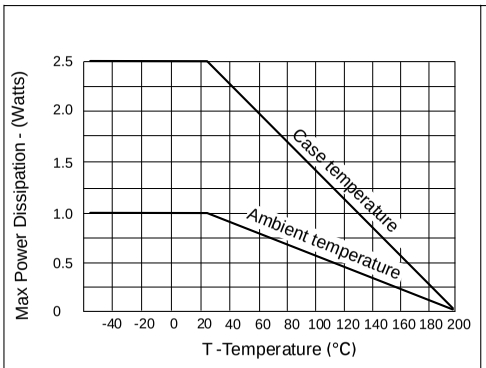
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f_T	150			MHz	I_C=50mA, V_{CE}=5V f=50MHz
Input Capacitance	C_{ibo}		200		pF	V_{EB}=0.5V, f=1MHz
Output Capacitance	C_{obo}		40		pF	V_{CB}=10V, f=1MHz
Switching Times	t_{on} t_{off}		40 500		ns ns	I_C=500mA, I_{B1}=50mA I_{B2}=50mA, V_{CC}=10V

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

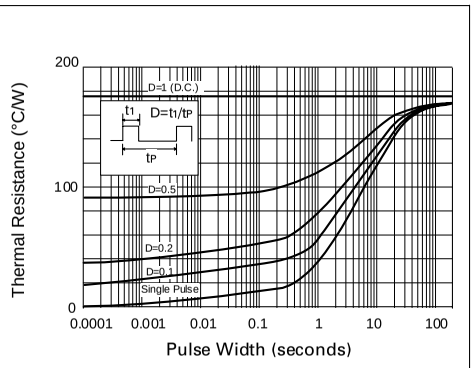
THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance:Junction to Ambient$_1$	$R_{th(j\text{-}amb)1}$	175	°C/W
Junction to Ambient$_2$	$R_{th(j\text{-}amb)2}$†	116	°C/W
Junction to Case	$R_{th(j\text{-}case)}$	70	°C/W

† Device mounted on P.C.B. with copper equal to 1 sq. Inch minimum.



Derating curve



Maximum transient thermal impedance

NPN SILICON PLANAR ME
HIGH GAIN TRANSISTOR

ISSUE 2 – MAY 94

FEATURES

* 12 Volt V_{CEO}
* Gain of 400 at I_C=3 Amps
* Very low saturation voltage

APPLICATIONS

* Darlington replacement
* Flash gun convertors
* Battery powered circuits
* Motor drivers

ABSOLUTE MAXIMUM RATINGS

PARAMETER	
Collector-Base Voltage	
Collector-Emitter Voltage	
Emitter-Base Voltage	
Peak Pulse Current	
Continuous Collector Current	
Practical Power Dissipation*	
Power Dissipation	at T_{amb}=25°C derate above 25°C
Operating and Storage Temperature Ran	

*The power which can be dissipated as
P.C.B. with copper equal to 1 inch squa

ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBO
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$
Collector Cut-Off Current	I_{CBO}
Emitter Cut-Off Current	I_{EBO}
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$
Static Forward Current Transfer Ratio	h_{FE}

ZTX688B

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

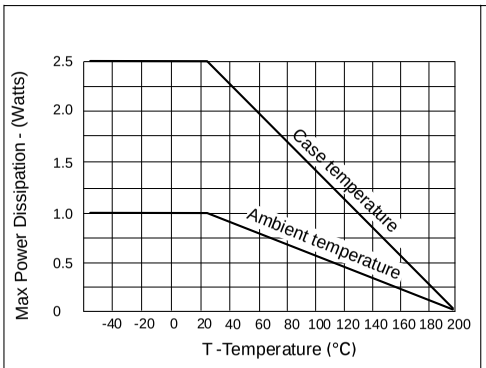
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f_T	150			MHz	I_C=50mA, V_{CE}=5V f=50MHz
Input Capacitance	C_{ibo}		200		pF	V_{EB}=0.5V, f=1MHz
Output Capacitance	C_{obo}		40		pF	V_{CB}=10V, f=1MHz
Switching Times	t_{on} t_{off}		40 500		ns ns	I_C=500mA, I_{B1}=50mA I_{B2}=50mA, V_{CC}=10V

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

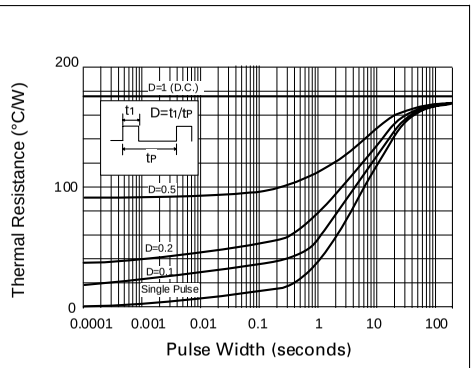
THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance:Junction to Ambient$_1$	$R_{th(j\text{-}amb)1}$	175	°C/W
Junction to Ambient$_2$	$R_{th(j\text{-}amb)2}$†	116	°C/W
Junction to Case	$R_{th(j\text{-}case)}$	70	°C/W

† Device mounted on P.C.B. with copper equal to 1 sq. Inch minimum.



Derating curve



Maximum transient thermal impedance

NPN SILICON PLANAR ME
HIGH GAIN TRANSISTOR

ISSUE 2 – MAY 94

FEATURES

* 12 Volt V_{CEO}
* Gain of 400 at I_C=3 Amps
* Very low saturation voltage

APPLICATIONS

* Darlington replacement
* Flash gun convertors
* Battery powered circuits
* Motor drivers

ABSOLUTE MAXIMUM RATINGS

PARAMETER	
Collector-Base Voltage	
Collector-Emitter Voltage	
Emitter-Base Voltage	
Peak Pulse Current	
Continuous Collector Current	
Practical Power Dissipation*	
Power Dissipation	at T_{amb}=25°C derate above 25°C
Operating and Storage Temperature Ran	

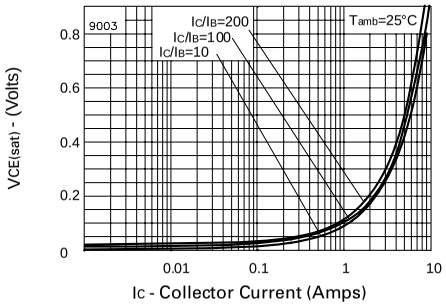
*The power which can be dissipated as
P.C.B. with copper equal to 1 inch squa

ELECTRICAL CHARACTERISTICS

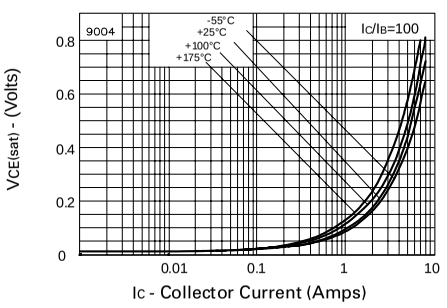
PARAMETER	SYMBO
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$
Collector Cut-Off Current	I_{CBO}
Emitter Cut-Off Current	I_{EBO}
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$
Static Forward Current Transfer Ratio	h_{FE}

ZTX688B

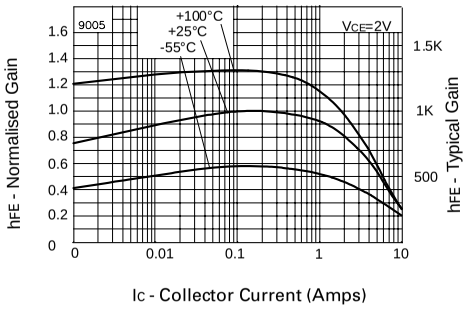
TYPICAL CHARACTERISTICS



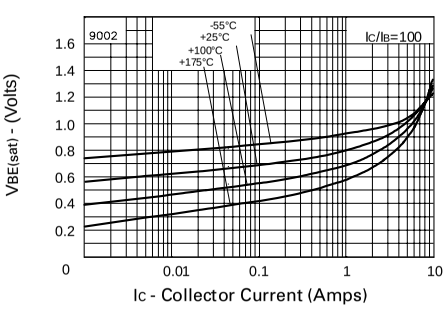
VCE(sat) v IC



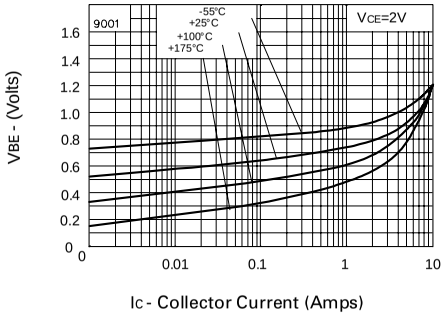
VCE(sat) v IC



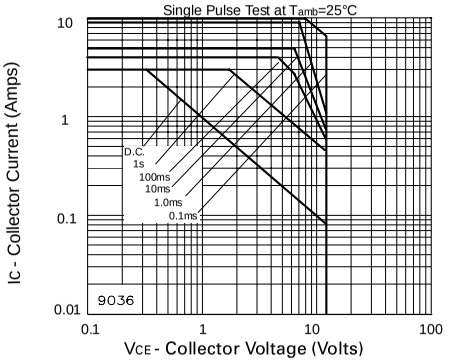
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- View ZTX688BSTZ on WIN SOURCE
- Diodes Incorporated Information

Optimize Your Supply Chain with WIN SOURCE Solutions

- Global Sourcing Solution
- Obsolete Management
- Cost Control Management
- Shortage Management
- Alternative Solution
- Excess Inventory Management