THE DATASHEET OF

ZTX649STOA

ZTX649

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

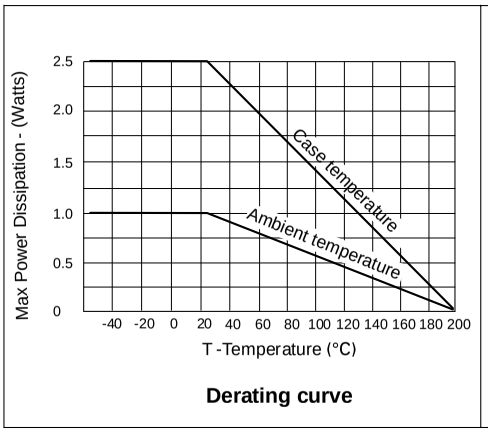
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Output Capacitance	C_{obo}		25	50	pF	V_{CB}=10V f=1MHz
Switching Times	t_{on}		55		ns	I_C=500mA, V_{CC}=10V I_{B1}=I_{B2}=50mA
	t_{off}		300		ns	

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

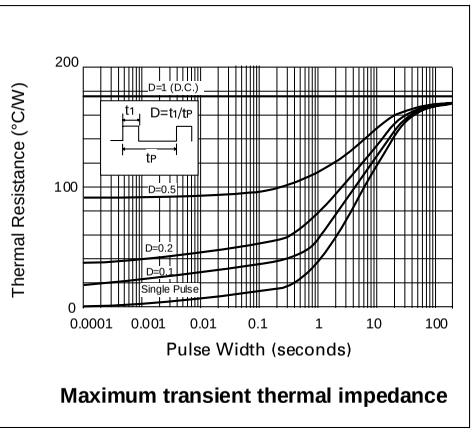
THERMAL CHARACTERISTICS

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 MEDIUM POWER TRANSIS

ISSUE 2 – APRIL 94

FEATURES

* 25 Volt V_{CEO}
* 2 Amp continuous current
* Low saturation voltage
* P_{tot}=1 Watt

APPLICATIONS

* Motor driver
* DC-DC converters

ABSOLUTE MAXIMUM RATINGS

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

ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	MI
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	35
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5
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}	70 10 75 15
Transition Frequency	f_T	15

ZTX649

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

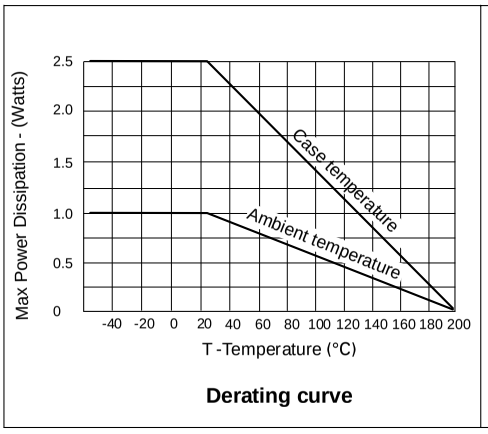
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Output Capacitance	C_{obo}		25	50	pF	V_{CB}=10V f=1MHz
Switching Times	t_{on}		55		ns	I_C=500mA, V_{CC}=10V I_{B1}=I_{B2}=50mA
	t_{off}		300		ns	

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

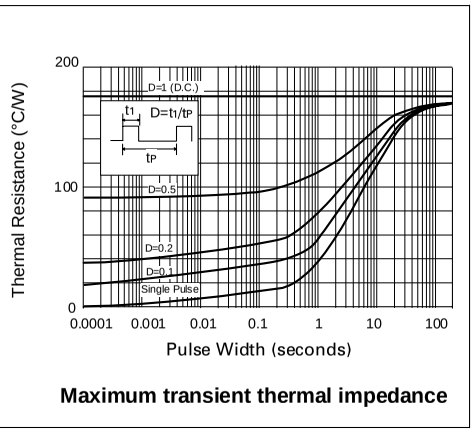
THERMAL CHARACTERISTICS

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 MEDIUM POWER TRANSIS

ISSUE 2 – APRIL 94

FEATURES

* 25 Volt V_{CEO}
* 2 Amp continuous current
* Low saturation voltage
* P_{tot}=1 Watt

APPLICATIONS

* Motor driver
* DC-DC converters

ABSOLUTE MAXIMUM RATINGS

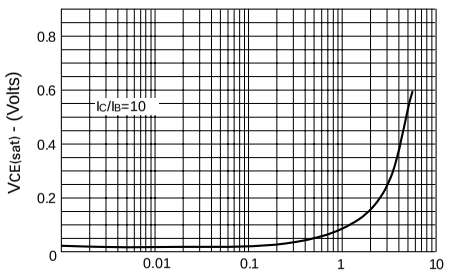
PARAMETER
Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Peak Pulse Current
Continuous Collector Current
Power Dissipation at T_{amb}=25°C derate above 25°C
Operating and Storage Temperature R

ELECTRICAL CHARACTERISTICS

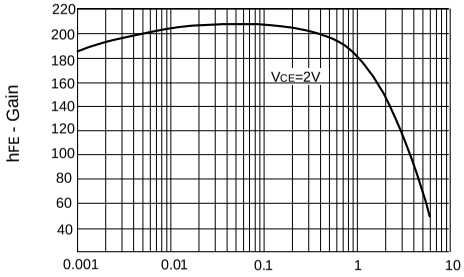
PARAMETER	SYMBOL	MI
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	35
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5
Collector Cut-Off Current	I_{CBO}	
Emitter Cut-Off Current	I_{EBO}	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	
Static Forward Current Transfer Ratio	h_{FE}	70 10 75 15
Transition Frequency	f_T	15

ZTX649

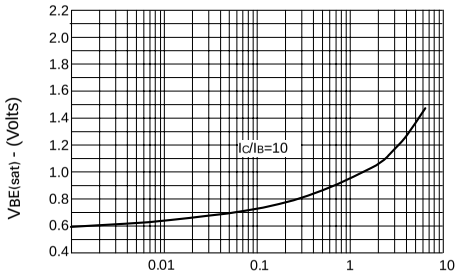
TYPICAL CHARACTERISTICS



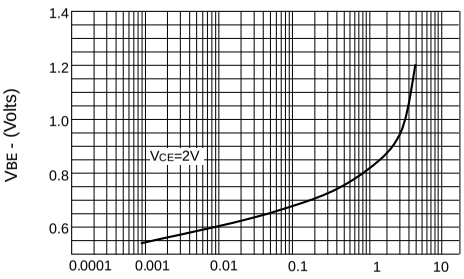
VCE(sat) v IC



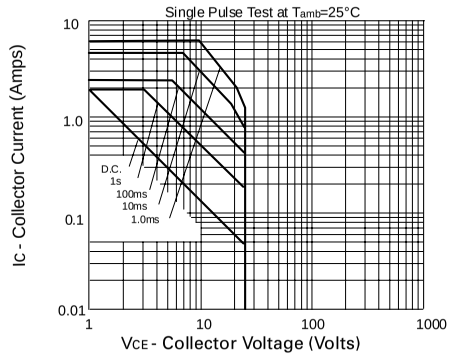
hFE v IC



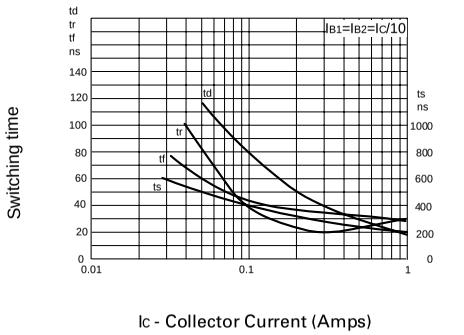
VBE(sat) v IC



VBE(on) v IC



Safe Operating Area



Switching Speeds

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- View ZTX649STOA 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