



ZTX649

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

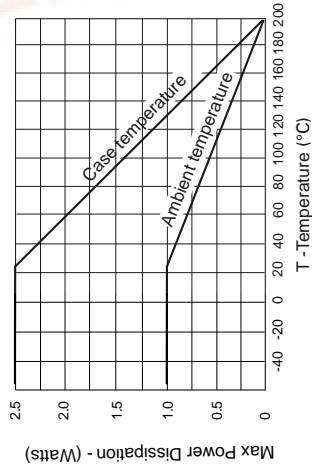
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Output Capacitance	C _{obo}		25	50	pF	V _{CB} =10V f=1MHz
Switching Times	t _{on}		55		ns	I _C =500mA, V _{CE} =10V I _{B1} =I _{B2} =50mA
	t _{off}		300		ns	

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

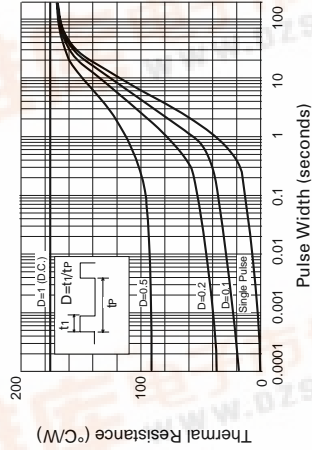
HERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance: Junction to Ambient ₁	R _{th(j-amb)1}	175	°C/W
Junction to Ambient ₂	R _{th(j-amb)2}	116	°C/W
Junction to Case	R _{th(j-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 TRANSISTOR

ISSUE 2 - APRIL 94

FEATURES

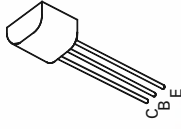
- * 25 Volt V_{CEO}
- * 2 Amp continuous current
- * Low saturation voltage
- * P_{tot}=1 Watt

APPLICATIONS

- * Motor driver
- * DC-DC converters

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CBO}	35	V
Collector-Emitter Voltage	V _{CEO}	25	V
Emitter-Base Voltage	V _{EB0}	5	V
Peak Pulse Current	I _{CM}	6	A
Continuous Collector Current	I _C	2	A
Power Dissipation at T _{amb} =25°C derate above 25°C	P _{tot}	1 5.7	W mW/°C
Operating and Storage Temperature Range	T _J ; T _{stg}	-55 to +200	°C



ZTX649

E-Line
TO92 Compatible

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	35			V	I _C =100μA
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	25			V	I _C =10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	5			V	I _E =100μA
Collector Cut-Off Current	I _{CBO}			0.1 10	μA μA	V _{CB} =30V V _{CB} =30V, T _{amb} =100°C
Emitter Cut-Off Current	I _{EBO}			0.1	μA	V _{EB} =4V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		0.12 0.23	0.3 0.5	V V	I _C =1A, I _B =100mA* I _C =2A, I _B =200mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		0.9	1.25	V	I _C =1A, I _B =100mA*
Base-Emitter Turn-On Voltage	V _{BE(on)}		0.8	1	V	I _C =1A, V _{CE} =2V*
Static Forward Current Transfer Ratio	h _{FE}	70	200			I _C =50mA, V _{CE} =2V*
		100	200	300		I _C =1A, V _{CE} =2V*
		75	150			I _C =2A, V _{CE} =2V*
		15	50			I _C =6A, V _{CE} =2V*
Transition Frequency	f _T	150	240		MHZ	I _C =100mA, V _{CE} =5V f=100MHZ

查询ZTX649供应商

捷多邦, 专业PCB打样工厂, 24小时加急出货

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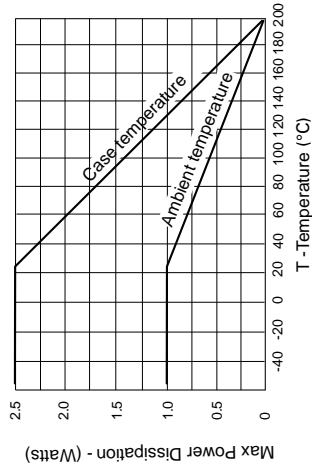
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Output Capacitance	C_{obo}		25	50	pF	$V_{CB}=10\text{V}$, $f=1\text{MHz}$
Switching Times	t_{on}		55		ns	$I_C=500\text{mA}$, $V_{CC}=10\text{V}$ $I_B=I_{B2}=50\text{mA}$
	t_{off}		300		ns	

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

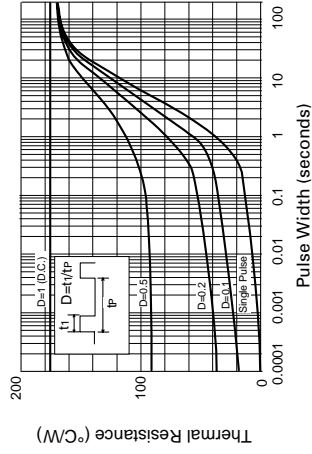
HERMAL CHARACTERISTICS

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Thermal Resistance: Junction to Ambient ₁ Junction to Ambient ₂ Junction to Case	$R_{th(j-amb)1}$	175	$^{\circ}\text{C/W}$
	$R_{th(j-amb)2}$	116	$^{\circ}\text{C/W}$
	$R_{th(j-case)}$	70	$^{\circ}\text{C/W}$

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



Derating curve



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NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

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FEATURES

- * 25 Volt V_{CEO}
 - * 2 Amp continuous current
 - * Low saturation voltage
 - * $P_{tot}=1$ Watt
- APPLICATIONS
- * Motor driver
 - * DC-DC converters

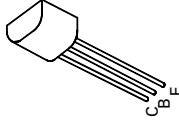
ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	35	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	6	A
Continuous Collector Current	I_C	2	A
Power Dissipation at $T_{amb}=25^{\circ}\text{C}$ derate above 25°C	P_{tot}	1	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200	$^{\circ}\text{C}$

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	35			V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25			V	$I_C=10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}			0.1	μA	$V_{CB}=30\text{V}$
Emitter Cut-Off Current	I_{EBO}			10	μA	$V_{CB}=30\text{V}, T_{amb}=100^{\circ}\text{C}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.12	0.3	V	$V_{EB}=4\text{V}$ $I_C=1\text{A}, I_B=100\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.23	0.5	V	$I_C=2\text{A}, I_B=200\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.9	1.25	V	$I_C=1\text{A}, I_B=100\text{mA}^*$
Static Forward Current Transfer Ratio	h_{FE}	70	200	300		$I_C=50\text{mA}, V_{CE}=2\text{V}^*$ $I_C=1\text{A}, V_{CE}=2\text{V}^*$ $I_C=2\text{A}, V_{CE}=2\text{V}^*$ $I_C=6\text{A}, V_{CE}=2\text{V}^*$
Transition Frequency	f_T	150	240		MHz	$I_C=100\text{mA}, V_{CE}=5\text{V}$ $f=100\text{MHz}$

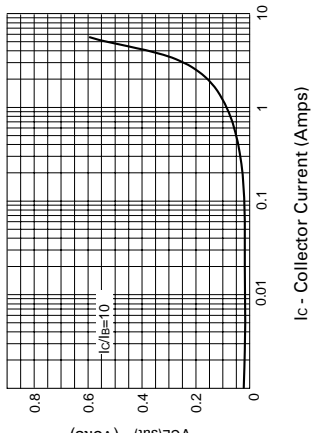
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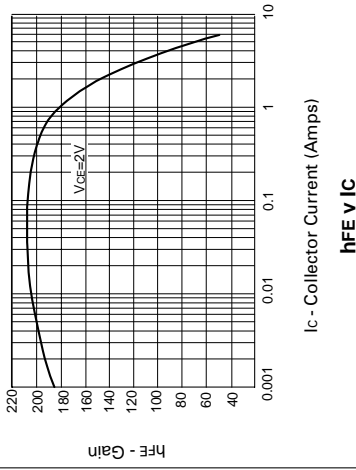
E-Line
TO92 Compatible

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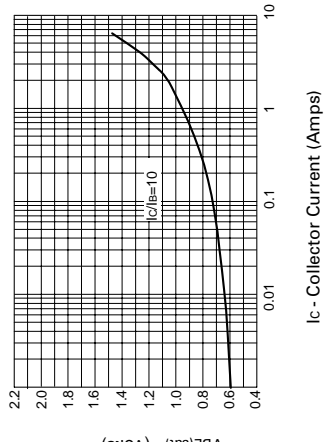
TYPICAL CHARACTERISTICS



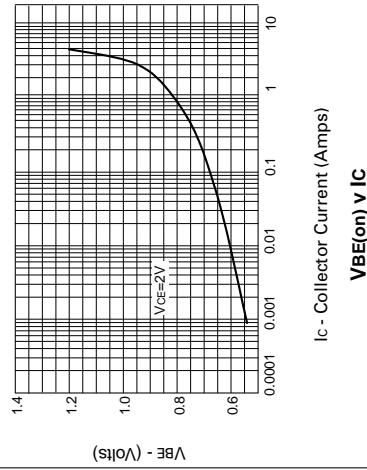
VBE(sat) v IC



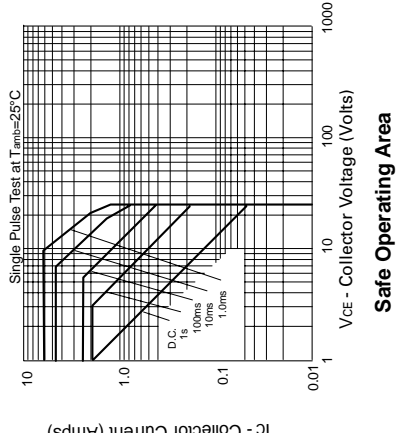
hFE v IC



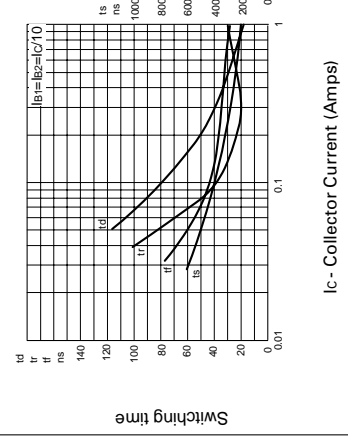
VBE(on) v IC



VCE(on) v IC



Safe Operating Area



Switching Speeds