



ZTX658

NPN SILICON PLANAR MEDIUM POWER
HIGH VOLTAGE TRANSISTOR

ISSUE 2 – APRIL 2002

ZTX658

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

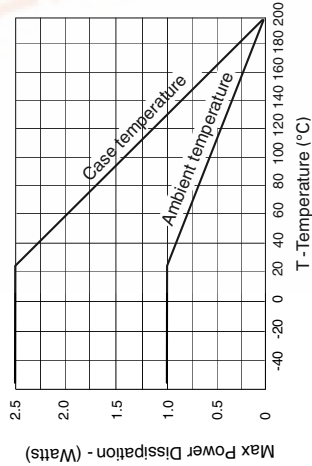
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f_T	50			MHz	$I_C=20\text{mA}$, $V_{CE}=20\text{V}$ $f=20\text{MHz}$
Output capacitance	C_{obo}			10	pF	$V_{CB}=20\text{V}$, $f=1\text{MHz}$
Switching times	t_{on} t_{off}		130 3300		ns ns	$I_C=100\text{mA}$, $V_C=100\text{V}$ $I_{B1}=10\text{mA}$, $I_{B2}=20\text{mA}$

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

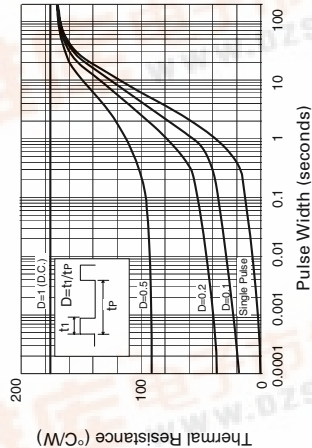
HERMAL CHARACTERISTICS

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

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



Derating curve



Maximum transient thermal impedance

FEATURES

- * 400 Volt V_{CEO}
- * 0.5 Amp continuous current
- * $P_{tot}=1$ Watt

APPLICATIONS

- * Telephone dialler circuits

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	400	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	1	A
Continuous Collector Current	I_C	500	mA
Power Dissipation at $T_{amb}=25^{\circ}\text{C}$ derate above 25°C	P_{tot}	1 5.7	W mW/ $^{\circ}\text{C}$
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	$V_{(BR)CBO}$	400			V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	400			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}			100	nA	$V_{CB}=320\text{V}$
Collector Cut-Off Current	I_{CBO}			100	nA	$V_{CE}=320\text{V}$
Emitter Cut-Off Current	I_{EBO}			100	nA	$V_{EB}=4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.3 0.25 0.5	V	$I_C=20\text{mA}$, $I_B=1\text{mA}$ $I_C=50\text{mA}$, $I_B=5\text{mA}^*$ $I_C=100\text{mA}$, $I_B=10\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			0.9	V	$I_C=100\text{mA}$, $I_B=10\text{mA}^*$
Base-Emitter Turn On Voltage	$V_{BE(on)}$			0.9	V	$I_C=100\text{mA}$, $V_{CE}=5\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	50 50 40				$I_C=1\text{mA}$, $V_{CE}=5\text{V}^*$ $I_C=100\text{mA}$, $V_{CE}=5\text{V}^*$ $I_C=200\text{mA}$, $V_{CE}=10\text{V}^*$

查询ZTX658_02供应商

捷多邦, 专业PCB打样工厂, 24小时加急出货

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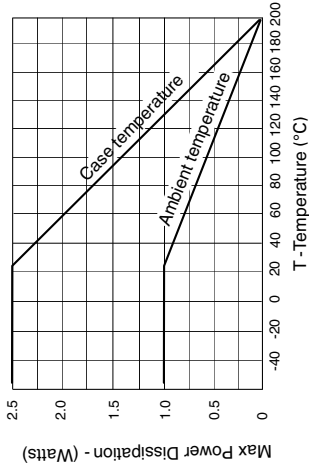
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f _T	50			MHz	I _C =20mA, V _{CE} =20V f=20MHz
Output capacitance	C _{obo}			10	pF	V _{CB} =20V, f=1MHz
Switching times	t _{on} t _{off}		130 3300		ns ns	I _C =100mA, V _C =100V I _{B1} =10mA, I _{B2} =-20mA

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

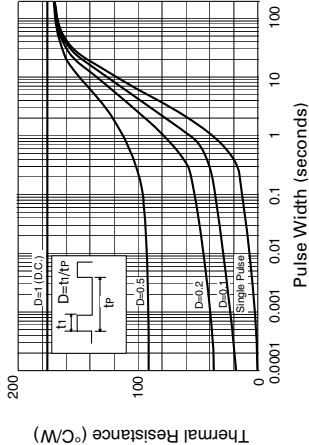
HERMAL CHARACTERISTICS

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

FEATURES

- * 400 Volt V_{CEO}
- * 0.5 Amp continuous current
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ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
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Collector-Emitter Voltage	V _{CE0}	400	V
Emitter-Base Voltage	V _{EB0}	5	V
Peak Pulse Current	I _{CM}	1	A
Continuous Collector Current	I _C	500	mA
Power Dissipation at T _{amb} =25°C derate above 25°C	P _{tot}	1	W
Operating and Storage Temperature Range	T _J :T _{stg}	-55 to +200	°C

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	400			V	I _C =100µA
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	400			V	I _C =10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	5			V	I _E =100µA
Collector Cut-Off Current	I _{CBO}			100	nA	V _{CB} =320V
Collector Cut-Off Current	I _{CBO}			100	nA	V _{CE} =320V
Emitter Cut-Off Current	I _{EBO}			100	nA	V _{EB} =4V
Collector-Emitter Saturation Voltage	V _{CE(sat)}			0.3 0.25 0.5	V	I _C =20mA, I _B =1mA I _C =50mA, I _B =5mA* I _C =100mA, I _B =10mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}			0.9	V	I _C =100mA, I _B =10mA*
Base-Emitter Turn On Voltage	V _{BE(on)}			0.9	V	I _C =100mA, V _{CE} =5V*
Static Forward Current Transfer Ratio	h _{FE}	50 50 40				I _C =1mA, V _{CE} =5V* I _C =100mA, V _{CE} =5V* I _C =200mA, V _{CE} =10V*

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TYPICAL CHARACTERISTICS

