



ZTX618

NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

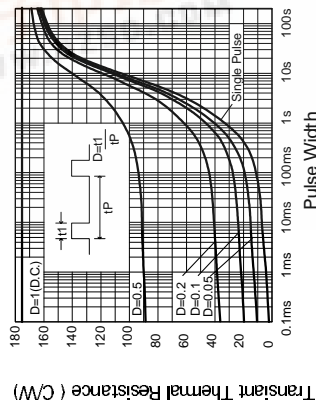
ISSUE 2 - JULY 1995

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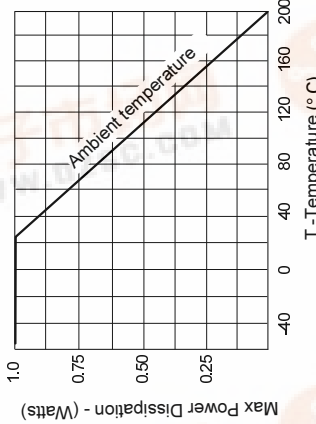
HERMAL CHARACTERISTICS

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

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



Transient Thermal Resistance



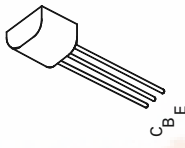
Derating curve

FEATURES

- * 10A Peak pulse current
- * Excellent h_{FE} characteristics up to 10A (pulsed)
- * Extremely low saturation voltage e.g. 7mV typ.
- * I_c cont 3.5A

APPLICATIONS

- * Power MOSFET gate driver in conjunction with complementary ZTX718



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	10	A
Continuous Collector Current	I_C	3.5	A
Base Current	I_B	500	mA
Practical Power Dissipation*	P_{totp}	1.5	W
Power Dissipation	P_{tot}	1	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200	$^{\circ}C$

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

查询ZTX618供应商

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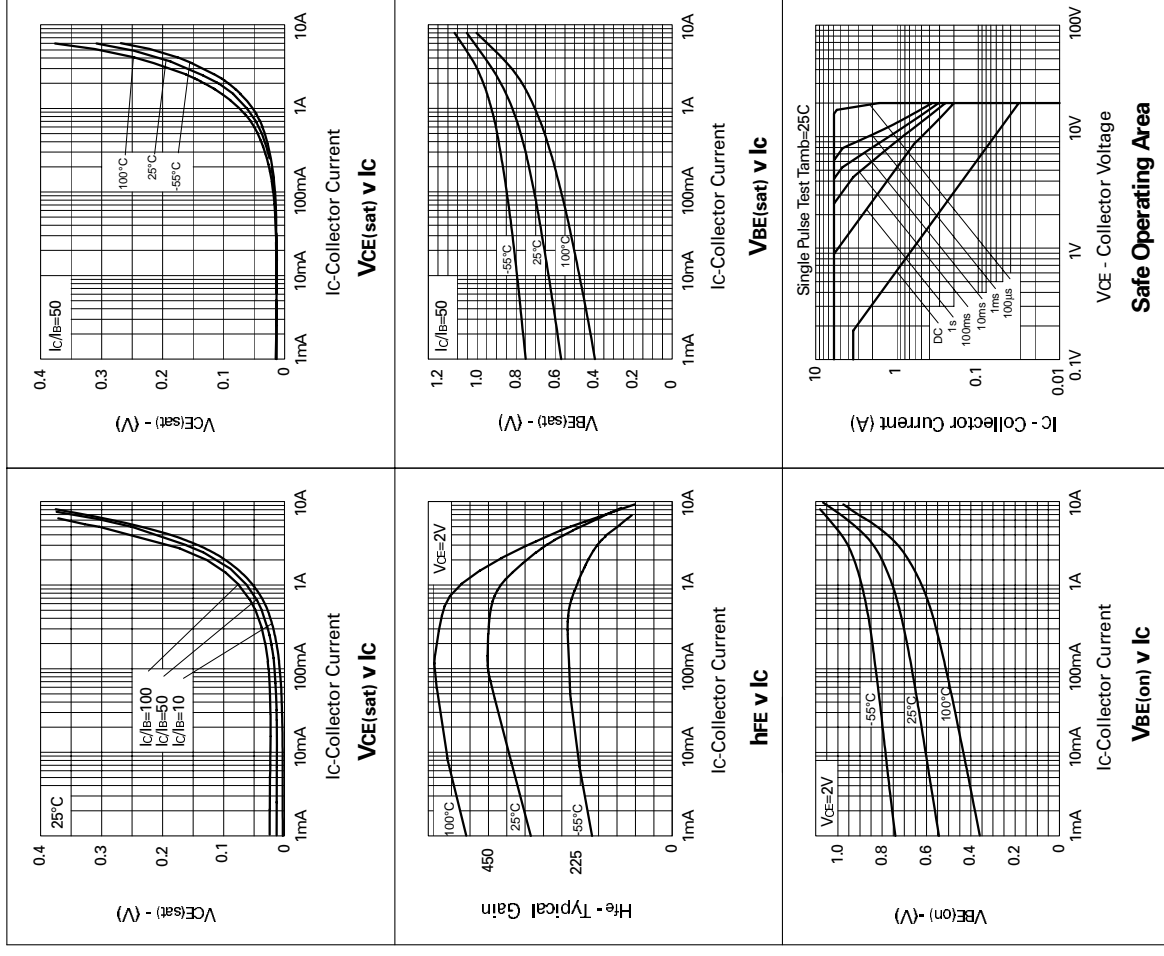


ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	20	100		V	$I_C = 100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	20	27		V	$I_C = 10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	8.3		V	$I_E = 100\mu A$
Collector Cut-Off Current	I_{CBO}			100	nA	$V_{CB} = 16V$
Emitter Cut-Off Current	I_{EBO}			100	nA	$V_{EB} = 4V$
Collector Emitter Cut-Off Current	I_{CES}			100	nA	$V_{CES} = 16V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		7	15	mV	$I_C = 0.1A, I_B = 10mA^*$
			80	150	mV	$I_C = 1A, I_B = 10mA^*$
			210	255	mV	$I_C = 3.5A, I_B = 50mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.93	1.05	V	$I_C = 3.5A, I_B = 50mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.86	1.0	V	$I_C = 3.5A, V_{CE} = 2V^*$
Static Forward Current Transfer Ratio	h_{FE}	200	400			$I_C = 10mA, V_{CE} = 2V^*$
		300	450			$I_C = 200mA, V_{CE} = 2V^*$
		170	300			$I_C = 3A, V_{CE} = 2V^*$
		40	85			$I_C = 10A, V_{CE} = 2V^*$
Transition Frequency	f_T	100	140		MHz	$I_C = 50mA, V_{CE} = 10V, f = 100MHz$
Output Capacitance	C_{obo}		23	30	pF	$V_{CB} = 10V, f = 1MHz$
Turn-On Time	$t_{(on)}$		170		ns	$V_{CC} = 10V, I_C = 1A, I_{B1} = I_{B2} = 10mA$
Turn-Off Time	$t_{(off)}$		400		ns	

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

TYPICAL CHARACTERISTICS

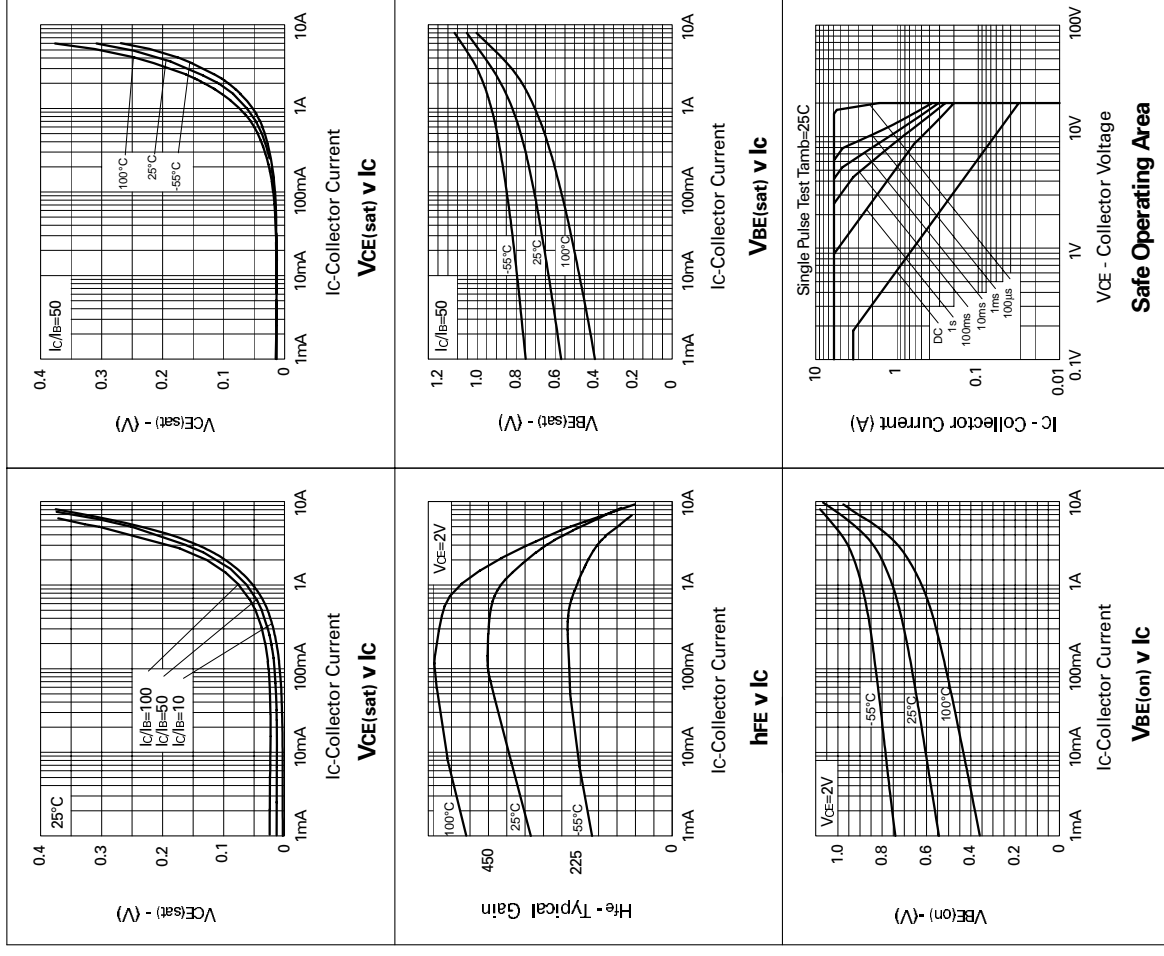


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TYPICAL CHARACTERISTICS



Safe Operating Area

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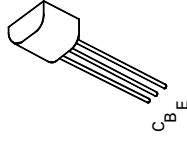
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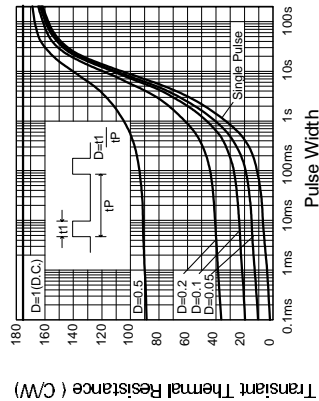


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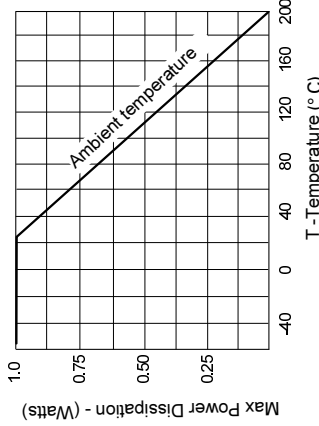
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