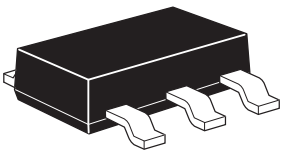
ZXTP5401G
150V, SOT223, PNP High voltage transistor

Summary



BV_{CEO} > -150V

BV_{EBO} > -5V

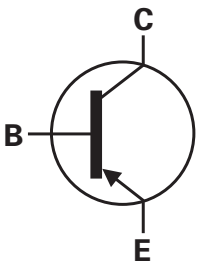
$I_{C(cont)}$ = -600mA

P_D = 2W

Complementary part number ZXTN5551G

Description

A high voltage PNP transistor in a surface mount package

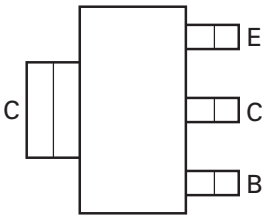


Features

- 150V rating
- SOT223 package

Applications

- High voltage amplification



Pinout - top view

Ordering information

Device	Reel size (inches)	Tape width (mm)	Quantity per reel
ZXTP5401GTA	7	12	1000
ZXTP5401GTC	13	12	4000

Device marking

ZXTP
5401

Absolute maximum ratings

Parameter	Symbol	Limit	Unit
Collector-base voltage	V_{CBO}	-160	V
Collector-emitter voltage	V_{CEO}	-150	V
Emitter-base voltage	V_{EBO}	-5	V
Continuous collector current[a]	I_C	-600	mA
Peak collector current	I_C	-2	A
Power dissipation at T_A =25°C[a]	P_D	2	W
Linear derating factor		16	mW/°C
Operating and storage temperature range	T_j, T_{stg}	-55 to 150	°C

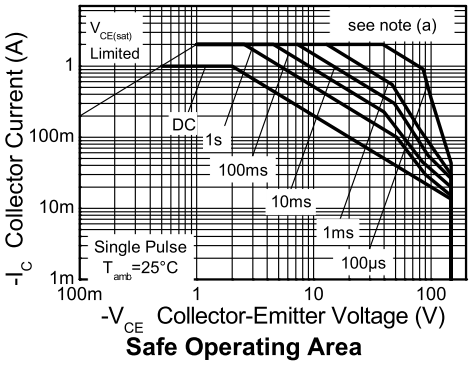
Thermal resistance

Parameter	Symbol	Limit	Unit
Junction to ambient[a]	$R_{\Theta JA}$	62.5	°C/W

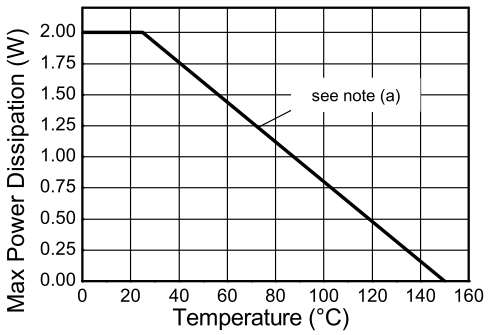
NOTES:

(a) For a device surface mounted on 50mm x 50mm x 1.6mm FR4 PCB with high coverage of single sided 1oz weight copper, in still air conditions.

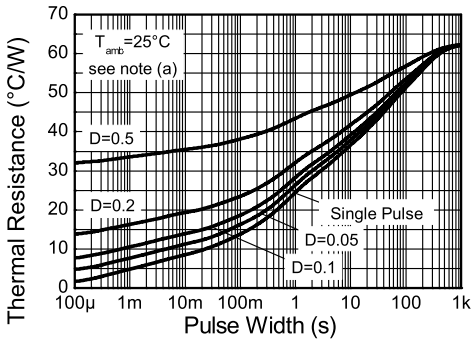
Typical characteristics



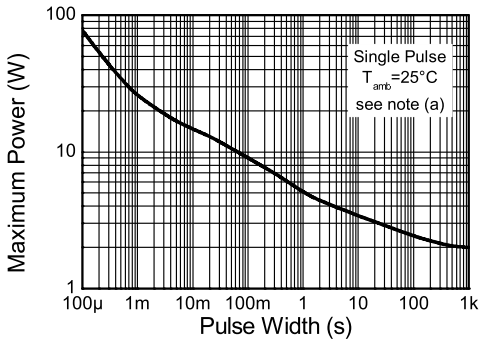
Safe Operating Area



Derating Curve



Transient Thermal Impedance

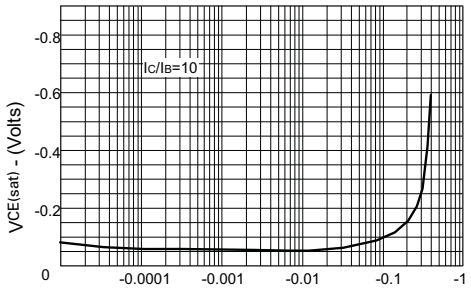


Pulse Power Dissipation

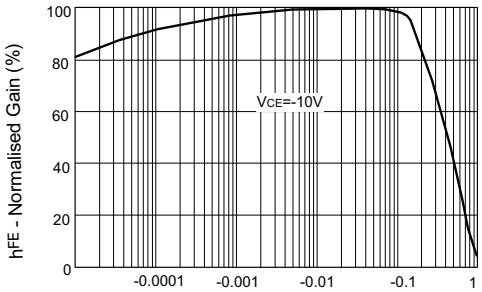
Electrical characteristics (at T_{amb} = 25°C unless otherwise stated)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-160	-270		V	I_C = -100μA,
Collector-emitter breakdown voltage (base open)	BV_{CEO}	-150	-240		V	I_C = -1mA *
Emitter-base breakdown voltage	BV_{EBO}	-5	-8.1		V	I_E = -10μA
Collector cut-off current	I_{CBO}		<-1	-50	nA	V_{CB} = -120V
				-50	μA	V_{CB} = -120V, T_{amb}= 100°C
Collector-emitter saturation voltage	$V_{CE(sat)}$		-50	-200	mV	I_C = -10mA, I_B = -1mA *
			-70	-500	mV	I_C = -50mA, I_B = -5mA *
Base-emitter saturation voltage	$V_{BE(sat)}$		-700	-1000	mV	I_C = -10mA, I_B = -1mA *
			-750	-1000	mV	I_C = -50mA, I_B = -5mA *
Static forward current transfer ratio	h_{FE}	50	135			I_C = -1mA, V_{CE} = -5V *
		60	135	240		I_C = -10mA, V_{CE} = -5V *
		50	130			I_C = -50mA, V_{CE} = -5V *
Transition frequency	f_T		100		MHz	I_C = -10mA, V_{CE} = -10V f = 100MHz
Output capacitance	C_{OBO}			6	pF	V_{CB} = -10V, f = 1MHz *
Delay time	$t_{(d)}$		386		ns	V_{CC} = -50V. I_C = -100mA, I_{B1} = I_{B2}= -10mA.
Rise time	$t_{(r)}$		202		ns	
Storage time	$t_{(s)}$		1720		ns	
Fall time	$t_{(f)}$		275		ns	

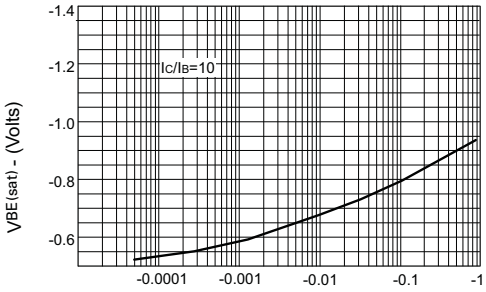
Characteristics



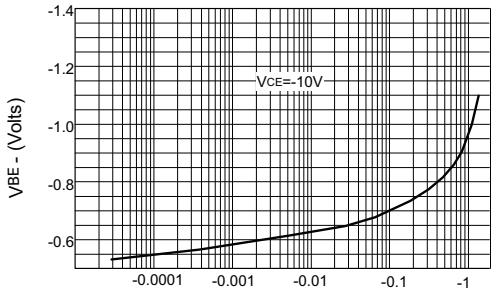
$V_{CE(sat)}$ v I_C



h_{FE} v I_C



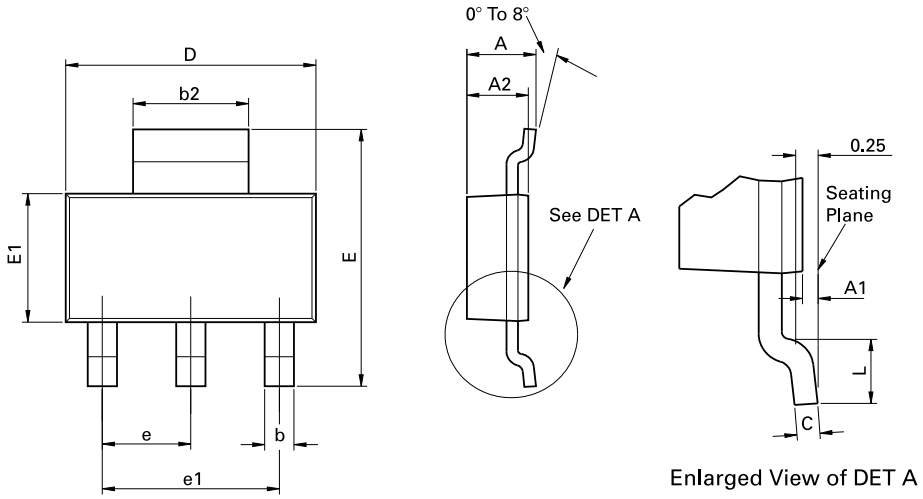
$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C

Intentionally left blank

Package outline - SOT223



Conforms to JEDEC TO-261 AA Issue B

Dim.	Millimeters		Inches		Dim.	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	-	1.80	-	0.071	D	6.30	6.70	0.248	0.264
A1	0.02	0.10	0.0008	0.004	e	2.30 BSC		0.0905 BSC	
A2	1.55	1.65	0.0610	0.0649	e1	4.60 BSC		0.181 BSC	
b	0.66	0.84	0.026	0.033	E	6.70	7.30	0.264	0.287
b2	2.90	3.10	0.114	0.122	E1	3.30	3.70	0.130	0.146
C	0.23	0.33	0.009	0.013	L	0.90	-	0.355	-

Note: Controlling dimensions are in millimeters. Approximate dimensions are provided in inches

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Europe	**Americas**	**Asia Pacific**	**Corporate Headquarters**
Zetex GmbH Kustermann-park Balanstraße 59 D-81541 München Germany	Zetex Inc 700 Veterans Memorial Highway Hauppauge, NY 11788 USA	Zetex (Asia Ltd) 3701-04 Metroplaza Tower 1 Hing Fong Road, Kwai Fong Hong Kong	Zetex Semiconductors plc Zetex Technology Park, Chadderton Oldham, OL9 9LL United Kingdom
Telefon: (49) 89 45 49 49 0 Fax: (49) 89 45 49 49 49 europe.sales@zetex.com	Telephone: (1) 631 360 2222 Fax: (1) 631 360 8222 usa.sales@zetex.com	Telephone: (852) 26100 611 Fax: (852) 24250 494 asia.sales@zetex.com	Telephone: (44) 161 622 4444 Fax: (44) 161 622 4446 hq@zetex.com