

# 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

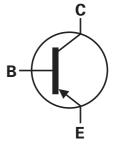
• High voltage amplification

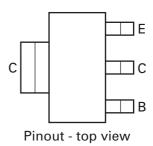
### **Ordering information**

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 <sub>CBO</sub>	-160	V
Collector-emitter voltage	V <sub>CEO</sub>	-150	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Continuous collector current <sup>(a)</sup>	۱ <sub>C</sub>	-600	mA
Peak collector current	۱ <sub>C</sub>	-2	А
Power dissipation at $T_A = 25^{\circ}C^{(a)}$	P <sub>D</sub>	2	W
Linear derating factor		16	mW/°C
Operating and storage temperature range	T <sub>j</sub> , T <sub>stg</sub>	-55 to 150	°C

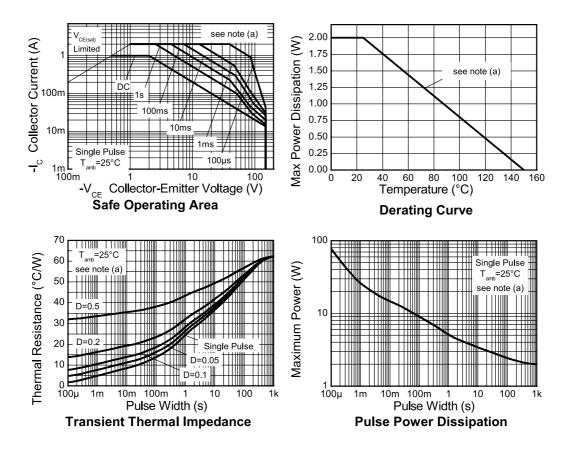
#### Thermal resistance

Parameter	Symbol	Limit	Unit
Junction to ambient <sup>(a)</sup>	$R_{\ThetaJA}$	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.

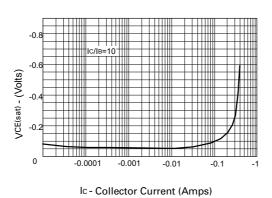
### **Typical characteristics**



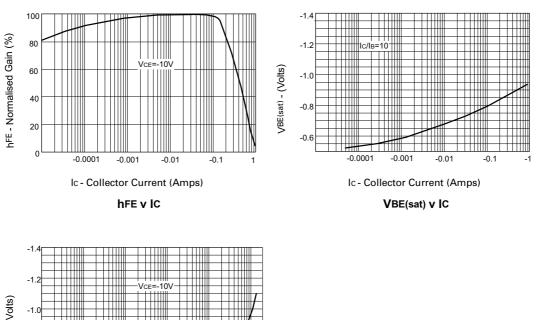
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CBO</sub>	-160	-270		V	I <sub>C</sub> = -100μA,
Collector-emitter breakdown voltage (base open)	BV <sub>CEO</sub>	-150	-240		V	I <sub>C</sub> = -1mA *
Emitter-base breakdown voltage	BV <sub>EBO</sub>	-5	-8.1		V	I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

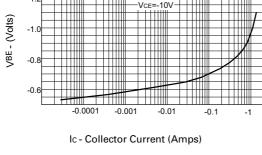
## Electrical characteristics (at $T_{amb} = 25^{\circ}C$ unless otherwise stated)

### Characteristics



VCE(sat) v IC

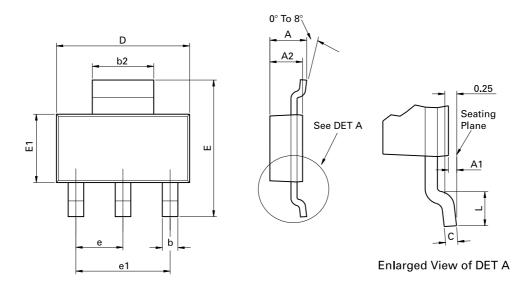






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### Package outline - SOT223



Conforms to JEDEC TO-261 AA Issue B

Dim.	Millin	neters	Inc	hes	Dim.	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
А	-	1.80	-	0.071	D	6.30	6.70	0.248	0.264
A1	0.02	0.10	0.0008	0.004	е	2.30	BSC	0.090	5 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
С	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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