

ZXTP5401G 150V, SOT223, PNP High voltage transistor

Summary

BV_{CEO} > -150V

 $BV_{EBO} > -5V$

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

 $P_D = 2W$

Complementary part number ZXTN5551G

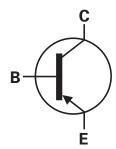


Description

A high voltage PNP transistor in a surface mount package

Features

- 150V rating
- SOT223 package

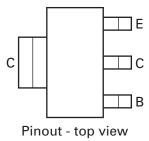


Applications

· 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	Symb	ol	Limit	Unit
Collector-base voltage	V _{CBC})	-160	V
Collector-emitter voltage	V _{CEC})	-150	V
Emitter-base voltage	V _{EBC})	-5	V
Continuous collector current ^(a)	I _C		-600	mA
Peak collector current	I _C		-2	Α
Power dissipation at T _A =25°C ^(a)	P _D		2	W
Linear derating factor			16	mW/°C
Operating and storage temperature range	T _i , T _s	tg	-55 to 150	°C

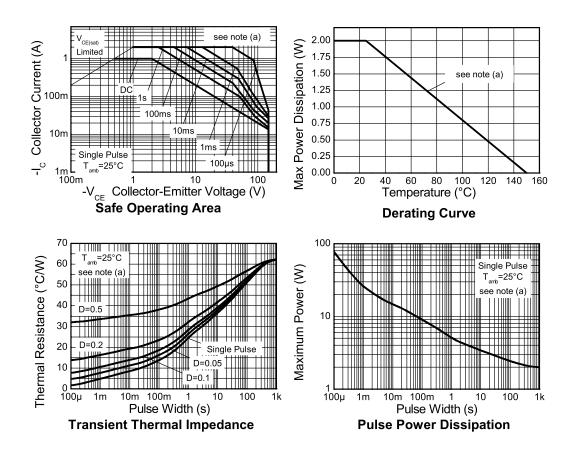
Thermal resistance

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

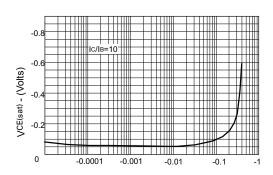


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Electrical characteristics (at $T_{amb} = 25$ °C unless otherwise stated)

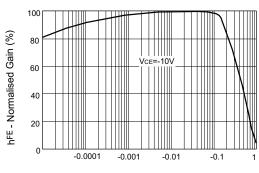
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CBO}	-160	-270		V	$I_C = -100 \mu A$,
Collector-emitter breakdown voltage (base open)	BV _{CEO}	-150	-240		V	I _C = -1mA *
Emitter-base breakdown voltage	BV _{EBO}	-5	-8.1		٧	$I_E = -10 \mu A$
Collector cut-off current	I _{CBO}		<-1	-50	nA	V _{CB} = -120V
				-50	μΑ	$V_{CB} = -120V, T_{amb} = 100^{\circ}C$
Collector-emitter saturation	V _{CE(sat)}		-50	-200	mV	I _C = -10mA, I _B = -1mA *
voltage			-70	-500	mV	I _C = -50mA, I _B = -5mA *
Base-emitter saturation	V _{BE(sat)}		-700	-1000	mV	I _C = -10mA, I _B = -1mA *
voltage			-750	-1000	mV	I _C = -50mA, I _B = -5mA *
	h _{FE}	50	135			I _C = -1mA, V _{CE} = -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 _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	$V_{CC} = -50V. I_C = -100mA,$
Rise time	t _(r)		202		ns	$I_{B1} = I_{B2} = -10 \text{mA}.$
Storage time	t _(s)		1720		ns	
Fall time	t _(f)		275		ns	

Characteristics



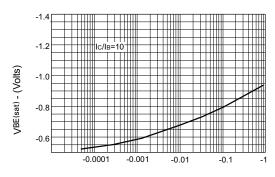
Ic - Collector Current (Amps)

VCE(sat) v IC



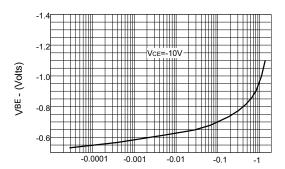
Ic - Collector Current (Amps)

hFE v IC



Ic - Collector Current (Amps)

VBE(sat) v IC



Ic - Collector Current (Amps)

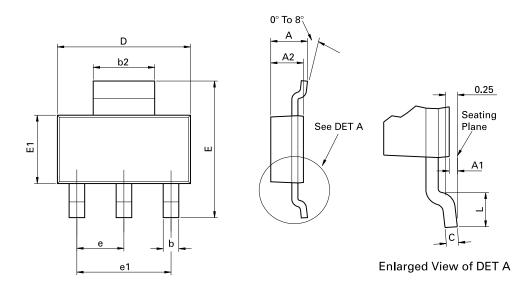
VBE(on) v IC

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Package outline - SOT223



Conforms to JEDEC TO-261 AA Issue B

Dim.	Millin	neters	Inc	hes	Dim.	Millimeters		Inches	
Diiii.	Min.	Max.	Min.	Max.	Diiii.	Min.	Max.	Min.	Max.
Α	-	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		0.0905 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
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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