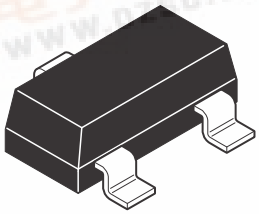
ZXTP5401FL
150V, SOT23, PNP High voltage transistor

Summary



BV_{CEO} > -150V

BV_{EBO} > -5V

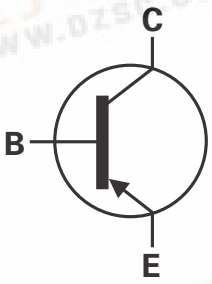
$I_{C(cont)}$ = -600mA

P_D = 330mW

Complementary part number ZXTN5551FL

Description

A high voltage PNP transistor in a small outline surface mount package.

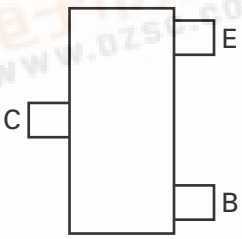


Features

- 150V rating
- SOT23 package

Applications

- High voltage amplification



Pinout - top view

Ordering information

Device	Reel size (inches)	Tape width (mm)	Quantity per reel
ZXTP5401FLTA	7	8	3000

Device marking

P01

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
Pulsed collector current	I_{CM}	-1	A
Power dissipation at T_{amb} =25°C[a]	P_D	330	mW
Linear derating factor		2.64	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]	$R_{\Theta JA}$	379	°C/W

NOTES:

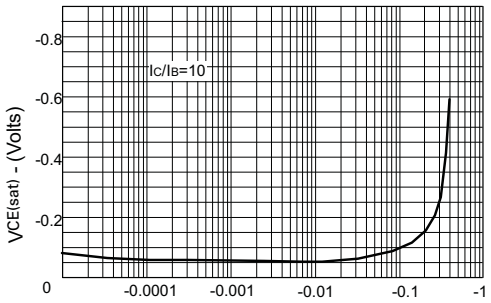
(a) For a device surface mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of single sided 1oz weight copper, in still air conditions.

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

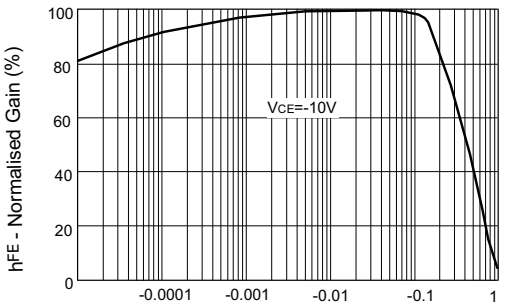
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-160	-270		V	I_C = -100μA
Collector-emitter breakdown voltage (base open)	BV_{CEO}	-150	-240		V	I_C = -1mA (*)
Emitter-base breakdown voltage	BV_{EBO}	-5	-8.1		V	I_E = -10μA
Collector cut-off current	I_{CBO}		<-1	-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}			10	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	

NOTES:
(*) Measured under pulsed conditions. Pulse width ≤300μs; duty cycle ≤2%.

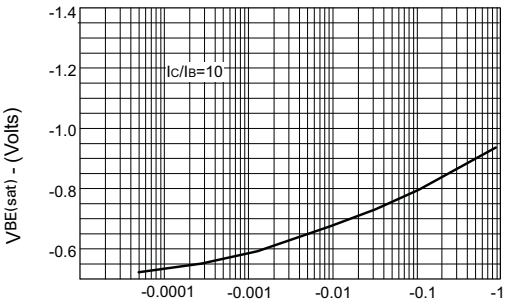
Typical characteristics



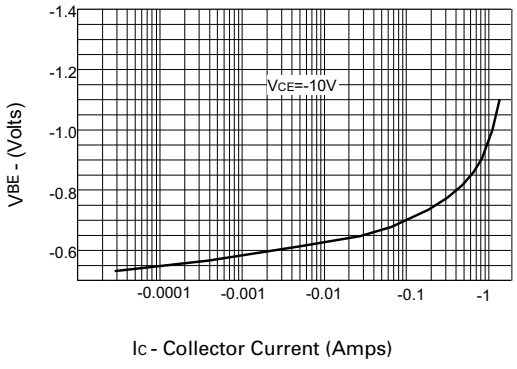
VCE(sat) v IC



hFE v IC



VBE(sat) v IC



VBE(on) v IC

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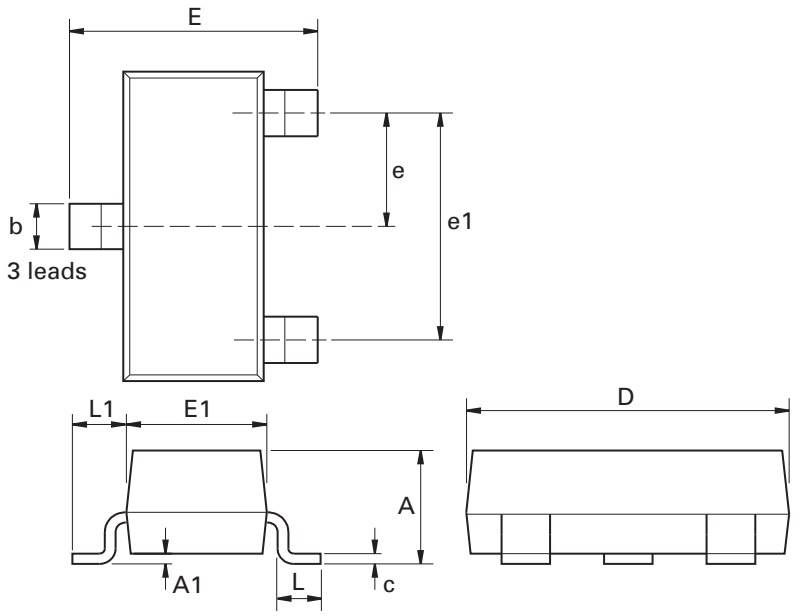
Package outline - SOT23



Dim.	Millimeters		Inches		Dim.	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	-	1.12	-	0.044	e1	1.90 NOM		0.075 NOM	
A1	0.01	0.10	0.0004	0.004	E	2.10	2.64	0.083	0.104
b	0.30	0.50	0.012	0.020	E1	1.20	1.40	0.047	0.055
c	0.085	0.20	0.003	0.008	L	0.25	0.60	0.0098	0.0236
D	2.80	3.04	0.110	0.120	L1	0.45	0.62	0.018	0.024
e	0.95 NOM		0.037 NOM		-	-	-	-	-

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

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