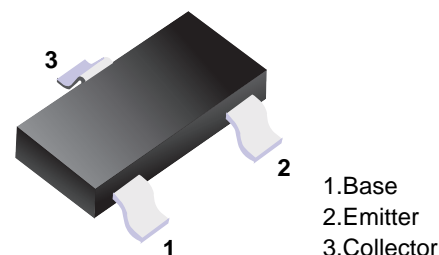


## NPN Transistors



### ■ Features

- High DC Current gain.
- Complimentary to 2SB624

### ■ Simplified outline(SOT-23)

### ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V <sub>CB0</sub>	30	V
Collector - Emitter Voltage	V <sub>CEO</sub>	25	
Emitter - Base Voltage	V <sub>EB0</sub>	5	
Collector Current - Continuous	I <sub>c</sub>	700	mA
Collector Power Dissipation	P <sub>c</sub>	200	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to 150	

### ■ Electrical Characteristics Ta = 25°C

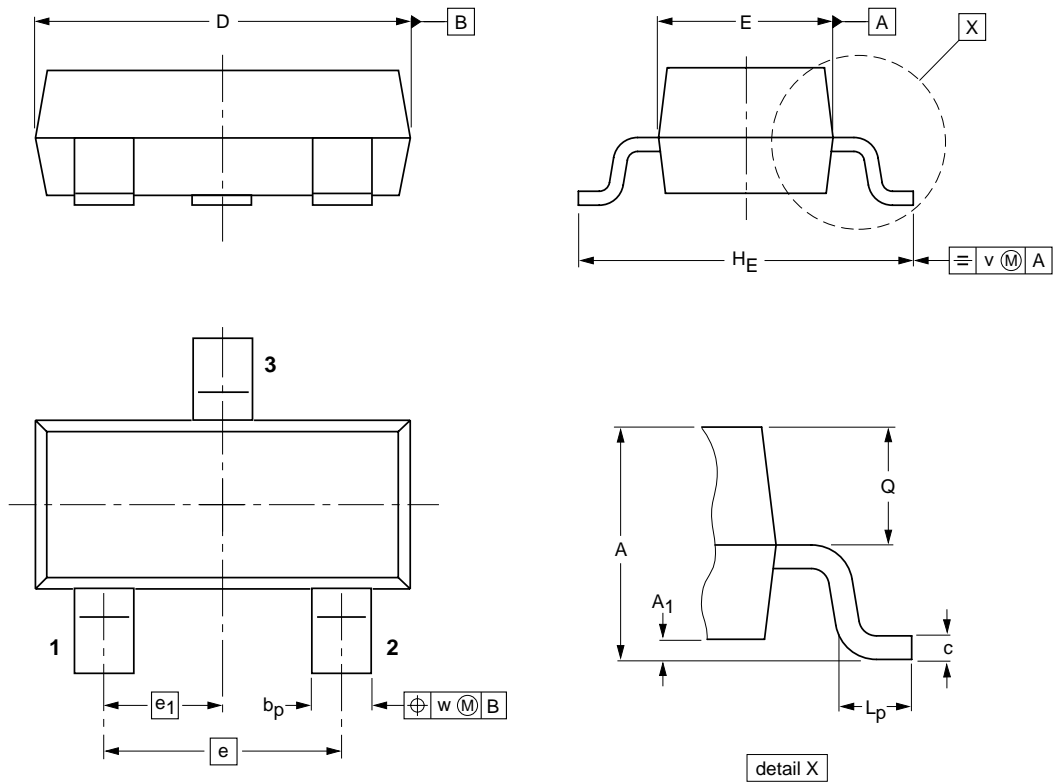
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CB0</sub>	I <sub>c</sub> = 100 μA, I <sub>E</sub> = 0	30			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>c</sub> = 1 mA, I <sub>B</sub> = 0	25			
Emitter - base breakdown voltage	V <sub>EB0</sub>	I <sub>E</sub> = 100 μA, I <sub>c</sub> = 0	5			
Collector-base cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> = 30 V, I <sub>E</sub> = 0			100	nA
Emitter cut-off current	I <sub>EB0</sub>	V <sub>EB</sub> = 5V, I <sub>c</sub> =0			100	
Collector-emitter saturation voltage (Note.1)	V <sub>CE(sat)</sub>	I <sub>c</sub> =700 mA, I <sub>B</sub> =70mA			0.6	V
Base - emitter saturation voltage (Note.1)	V <sub>BE(sat)</sub>	I <sub>c</sub> =700 mA, I <sub>B</sub> =70mA			1.2	
Base - emitter voltage (Note.1)	V <sub>BE</sub>	V <sub>CE</sub> = 6V, I <sub>c</sub> = 10mA	0.6		0.7	
DC current gain (Note.1)	h <sub>FE(1)</sub>	V <sub>CE</sub> = 1V, I <sub>c</sub> = 100mA	110		400	
	h <sub>FE(2)</sub>	V <sub>CE</sub> = 1V, I <sub>c</sub> = 700mA	50			
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 6V, I <sub>E</sub> = 10mA, f=10MHz		12		pF
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 6V, I <sub>c</sub> = 10mA	170			MHz

Note.1: Pulse test : Pulse width ≤350μs, Duty Cycle≤2%.

### ■ Classification of h<sub>FE(1)</sub>

Type	2SD596-DV1	2SD596-DV2	2SD596-DV3	2SD596-DV4	2SD596-DV5
Range	110-180	135-220	170-270	200-320	250-400
Marking	DV1	DV2	DV3	DV4	DV5

■ SOT-23



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

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