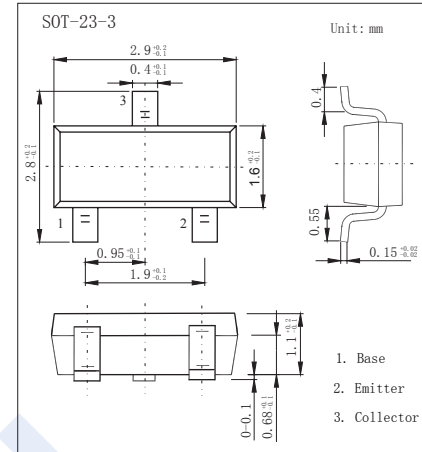


## NPN Transistors

### KTD1304 (KTD1304S)

#### ■ Features

- High Emitter-Base Voltage : $V_{EBO} = 12V(\text{Min})$
- High Reverse  $h_{FE}$
- Low on Resistance



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	25	V
Collector - Emitter Voltage	$V_{CEO}$	20	
Emitter - Base Voltage	$V_{EBO}$	12	
Collector Current - Continuous	$I_C$	300	mA
Base Current	$I_B$	30	
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to 150	

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_C = 100 \mu\text{A}, I_E = 0$	25			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_C = 1 \text{mA}, I_B = 0$	20			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E = 100 \mu\text{A}, I_C = 0$	12			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = 25 \text{V}, I_E = 0$			100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 12 \text{V}, I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100 \text{mA}, I_B = 10 \text{mA}$			0.25	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100 \text{mA}, I_B = 10 \text{mA}$			1	
DC current gain	$h_{FE(1)}$	$V_{CE} = 2 \text{V}, I_C = 4 \text{mA}$ (FOR)	200		800	
	$h_{FE(2)}$	$V_{CE} = 2 \text{V}, I_C = 4 \text{mA}$ (REV)	20			
On resistance	$R_{on}$	$I_B = 1 \text{mA}, V_{in} = 0.3 \text{V}, f = 1 \text{KHz}$		0.6		$\Omega$
Collector output capacitance	$C_{ob}$	$V_{CB} = 10 \text{V}, I_E = 0, f = 1 \text{MHz}$		10		pF
Transition frequency	$f_T$	$V_{CE} = 10 \text{V}, I_C = 1 \text{mA}$		60		MHz

#### ■ Marking

Marking	J3Y
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## NPN Transistors KTD1304 (KTD1304S)

■ Typical Characteristics

