

2N5400 / 2N5401

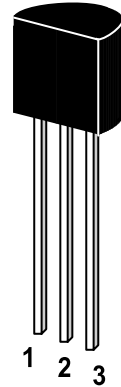


PNP Silicon Epitaxial Planar Transistors

for general purpose, high voltage amplifier applications.

As complementary types the NPN transistors ST 2N5550 and ST 2N5551 are recommended.

On special request, these transistors can be manufactured in different pin configurations.



1. Emitter 2. Base 3. Collector

TO-92 Plastic Package

Weight approx. 0.19g

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

	Symbol	Value	Unit	
Collector Emitter Voltage	ST 2N5400	$-V_{CEO}$	120	V
	ST 2N5401	$-V_{CEO}$	150	V
Collector Base Voltage	ST 2N5400	$-V_{CBO}$	130	V
	ST 2N5401	$-V_{CBO}$	160	V
Emitter Base Voltage	$-V_{EBO}$	5	V	
Collector Current	$-I_C$	600	mA	
Power Dissipation	P_{tot}	625 ¹⁾	mW	
Junction Temperature	T_j	150	$^\circ\text{C}$	
Storage Temperature Range	T_s	-55 to +150	$^\circ\text{C}$	

¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.

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Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	at $-V_{CE}=5\text{V}$, $-I_C=1\text{mA}$	ST 2N5400	h_{FE}	30	-	-
		ST 2N5401	h_{FE}	50	-	-
	at $-V_{CE}=5\text{V}$, $-I_C=10\text{mA}$	ST 2N5400	h_{FE}	40	-	180
		ST 2N5401	h_{FE}	60	-	240
	at $-V_{CE}=5\text{V}$, $-I_C=50\text{mA}$	ST 2N5400	h_{FE}	40	-	-
		ST 2N5401	h_{FE}	50	-	-
Collector Emitter Breakdown Voltage	at $-I_C=1\text{mA}$	ST 2N5400	$-V_{(BR)CEO}$	120	-	V
		ST 2N5401	$-V_{(BR)CEO}$	150	-	V
Collector Base Breakdown Voltage	at $-I_C=100\mu\text{A}$	ST 2N5400	$-V_{(BR)CBO}$	130	-	V
		ST 2N5401	$-V_{(BR)CBO}$	160	-	V
Emitter Base Breakdown Voltage	at $-I_E=10\mu\text{A}$		$-V_{(BR)EBO}$	5	-	V
Collector Cutoff Current	at $-V_{CB}=100\text{V}$	ST 2N5400	$-I_{CBO}$	-	-	100 nA
	at $-V_{CB}=120\text{V}$	ST 2N5401	$-I_{CBO}$	-	-	50 nA
Emitter Cutoff Current	at $-V_{EB}=3\text{V}$		$-I_{EBO}$	-	-	50 nA
Collector Saturation Voltage	at $-I_C=10\text{mA}$, $-I_B=1\text{mA}$		$-V_{CE\text{ sat}}$	-	-	0.2 V
	at $-I_C=50\text{mA}$, $-I_B=5\text{mA}$		$-V_{CE\text{ sat}}$	-	-	0.5 V
Base Saturation Voltage	at $-I_C=10\text{mA}$, $-I_B=1\text{mA}$		$-V_{BE\text{ sat}}$	-	-	1 V
	at $-I_C=50\text{mA}$, $-I_B=5\text{mA}$		$-V_{BE\text{ sat}}$	-	-	1 V
Gain Bandwidth Product	at $-V_{CE}=10\text{V}$, $-I_C=10\text{mA}$, $f=100\text{MHz}$	ST 2N5400	f_T	100	-	400 MHz
		ST 2N5401	f_T	100	-	400 MHz
Collector Base Capacitance	at $-V_{CB}=10\text{V}$, $f=1\text{MHz}$		C_{CBO}	-	-	6 pF
Noise Figure	at $-V_{CE}=5\text{V}$, $-I_C=200\mu\text{A}$, $R_G=2\text{k}\Omega$, $f=30\text{Hz} \dots 15\text{kHz}$		F	-	-	8 dB
Thermal Resistance Junction to Ambient			R_{thA}	-	-	$200^{1)}$ K/W

¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.

