



2N4901/2N4902/2N4903

PNP SILICON TRANSISTORS, EPITAXIAL BASE

LF Large signal power amplification
Switching medium current

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit	
V_{CBO}	Collector to Base Voltage	2N4901	-40	V	
		2N4902	-60		
		2N4903	-80		
V_{CEO}	#Collector-Emitter Voltage	2N4901	-40	V	
		2N4902	-60		
		2N4903	-80		
V_{CER}	Collector-Emitter Voltage	2N4901	-40	V	
		2N4902	-60		
		2N4903	-80		
V_{EBO}	Emitter-Base Voltage		2N4901 2N4902 2N4903	-5.0	V
V_{CEX}	Collector-Base Voltage	$V_{BE}=1.5\text{ V}$	2N4901	-40	V
			2N4902	-60	
			2N4903	-80	
I_C	Collector Current – Continuous		2N4901 2N4902 2N4903	-5	A
I_{CM}	Collector Current – Peak	$t_p=5\text{ ms}$	2N4901 2N4902 2N4903	-10	A
I_B	Base Current – Continuous		2N4901 2N4902 2N4903	-1	A
P_{TOT}	Power Dissipation		2N4901 2N4902 2N4903	87.5	W
T_J	Junction Temperature		2N4901 2N4902 2N4903	200	°C
T_{STG}	Storage Temperature		2N4901 2N4902 2N4903	-65 to +200	°C



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THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJC}	Thermal Resistance, Junction to Case	2	°C/W
R_{thJA}	Junction to Free Air Thermal Resistance	47.3	°C/W

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
$V_{CEO(BR)}$	Collector-Emitter Breakdown Voltage)	$I_C=200 \text{ mAdc}$, $I_B=0$	2N4901 -40 2N4902 -60 2N4903 -80	-	-	V
h_{FE}	DC Current Gain (*)	$V_{CE}=-2.0 \text{ V}$, $I_C=-1.0 \text{ A}$	2N4901 20 2N4902 20 2N4903 20	-	80	V
		$V_{CE}=-2.0 \text{ V}$, $I_C=-5.0 \text{ A}$	2N4901 7 2N4902 7 2N4903 7	-	-	V
I_{CBO}	Collector-Base cut-off Current	$V_{CE}=-40 \text{ V}$, $I_E=0$	2N4901 -	-	0.1	mA
		$V_{CE}=-60 \text{ V}$, $I_E=0$	2N4902 -	-	0.1	mA
		$V_{CE}=-80 \text{ V}$, $I_E=0$	2N4903 -	-	0.1	mA
I_{CEX}	Collector Cutoff Current	$V_{CE}=-40 \text{ V}$, $V_{EB}=1.5 \text{ V}$	2N4901 -	-	-0.1	mA
		$V_{CE}=-40 \text{ V}$, $V_{EB}=1.5 \text{ V}$, $T_{CASE}=150^\circ\text{C}$	2N4901 -	-	-2.0	mA
		$V_{CE}=-60 \text{ V}$, $V_{EB}=1.5 \text{ V}$	2N4902 -	-	-0.1	mA
		$V_{CE}=-60 \text{ V}$, $V_{EB}=1.5 \text{ V}$, $T_{CASE}=150^\circ\text{C}$	2N4902 -	-	-2.0	mA
		$V_{CE}=-80 \text{ V}$, $V_{EB}=1.5 \text{ V}$	2N4903 -	-	-0.1	mA
		$V_{CE}=-80 \text{ V}$, $V_{EB}=1.5 \text{ V}$, $T_{CASE}=150^\circ\text{C}$	2N4903 -	-	-2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{BE}=5.0 \text{ V}$, $I_C=0$	2N4901 - 2N4902 - 2N4903 -	-	-1.0	mA
H_{fe}	Forward Current Transfer Ratio (*)	$V_{CE}=-10 \text{ V}$, $I_C=-0.5 \text{ A}$ $f=1\text{MHz}$	2N4901 20 2N4902 20 2N4903 20	-	-	V
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C=-1.0 \text{ A}$, $I_B=-0.1 \text{ A}$	2N4901 - 2N4902 - 2N4903 -	-	-0.4	V
		$I_C=-5.0 \text{ A}$, $I_B=-1.0 \text{ A}$	2N4901 - 2N4902 - 2N4903 -	-	-1.5	V
V_{BE}	Base-Emitter Voltage (*)	$I_C=-1.0 \text{ A}$, $V_{CE}=-2.0 \text{ V}$	2N4901 - 2N4902 - 2N4903 -	-	-1.2	V

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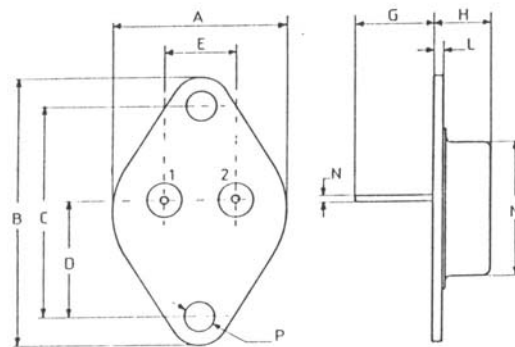
$V_{BE(SAT)}$	Base-Emitter Saturation Voltage (*)	$I_C = -5.0 \text{ A}$, $I_B = -1.0 \text{ A}$	2N4901 2N4902 2N4903	-	1.7	-	V
f_T	Transition Frequency	$V_{CE} = -10 \text{ V}$, $I_C = -1.0 \text{ A}$, $f = 1.0 \text{ kHz}$	2N4901 2N4902 2N4903	4	-	-	MHz
$I_{S/b}$	Second Breakdown Collector Current	$t = 1 \text{ s}$, $V_{CE} = 40 \text{ V}$, $T_{CASE} = 100^\circ\text{C}$	2N4901 2N4902 2N4903	1.25	-	-	A

In accordance with JEDEC Registration Data

(*) Pulse Width $\approx 300 \mu\text{s}$, Duty Cycle $\angle 2.0\%$

MECHANICAL DATA CASE TO-3

DIMENSIONS		
	mm	inches
A	25,51	1,004
B	38,93	1,53
C	30,12	1,18
D	17,25	0,68
E	10,89	0,43
G	11,62	0,46
H	8,54	0,34
L	1,55	0,6
M	19,47	0,77
N	1	0,04
P	4,06	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector