

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 2N4902 2N4903	V
			-40 -60 -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	-	-	V
			2N4902	-60			
			2N4903	-80			
I_{CBO}	Collector-Base cut-off Current	$V_{CE}=-40\text{ V}$, $I_E=0$	2N4901	-	-	1.0	mA
		$V_{CE}=-60\text{ V}$, $I_E=0$	2N4902	-	-	1.0	
		$V_{CE}=-80\text{ V}$, $I_E=0$	2N4903	-	-	1.0	
I_{CEO}	Collector-Emitter cut-off Current	$V_{CE}=-40\text{ V}$, $I_B=0$	2N4901	-	-	1.0	mA
		$V_{CE}=-60\text{ V}$, $I_B=0$	2N4902	-	-	1.0	
		$V_{CE}=-80\text{ V}$, $I_B=0$	2N4903	-	-	1.0	
I_{CEX}	Collector Cutoff Current	$V_{CE}=-40\text{ V}$, $V_{EB}=1.5\text{ V}$	2N4901	-	-	-0.1	mA
		$V_{CE}=-40\text{ V}$, $V_{EB}=1.5\text{ V}$, $T_{CASE}=150^{\circ}\text{C}$		-	-	-2.0	
		$V_{CE}=-60\text{ V}$, $V_{EB}=1.5\text{ V}$	2N4902	-	-	-0.1	
		$V_{CE}=-60\text{ V}$, $V_{EB}=1.5\text{ V}$, $T_{CASE}=150^{\circ}\text{C}$		-	-	-2.0	
		$V_{CE}=-80\text{ V}$, $V_{EB}=1.5\text{ V}$	2N4903	-	-	-0.1	
		$V_{CE}=-60\text{ V}$, $V_{EB}=1.5\text{ V}$, $T_{CASE}=150^{\circ}\text{C}$		-	-	-2.0	
h_{21E}	DC Current Gain (*)	$V_{CE}=-2.0\text{ V}$, $I_C=-1.0\text{ A}$	2N4901 2N4902 2N4903	20	-	80	V
		$V_{CE}=-2.0\text{ V}$, $I_C=-5.0\text{ A}$	2N4901 2N4902 2N4903	7	-	-	
h_{21e}	Forward Current Transfer Ratio (*)	$V_{CE}=-10\text{ V}$, $I_C=-0.5\text{ A}$, $f=1.0\text{ kHz}$	2N4901 2N4902 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	

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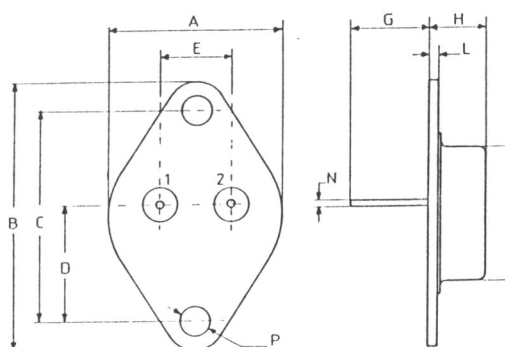
Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	mA
$V_{BE(SAT)}$	Base-Emitter Saturation Voltage (*)	$I_C = -5.0\text{ A}$, $I_B = -1.0\text{ A}$	2N4901 2N4902 2N4903	-	1.7	-	V
V_{BE}	Base-Emitter Voltage (*)	$I_C = -1.0\text{ A}$, $V_{CE} = -2.0\text{ V}$	2N4901 2N4902 2N4903	-	-	-1.2	V
f_T	Transition 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 $\approx 300\text{ }\mu\text{s}$, Duty Cycle $\angle 2.0\%$

MECHANICAL DATA CASE TO-3

DIMENSIONS		
	mm	inches
A	25,45	1
B	38,8	1,52
C	30,09	1,184
D	17,11	0,67
E	9,78	0,38
G	11,09	0,43
H	8,33	0,32
L	1,62	0,06
M	19,43	0,76
N	1	0,04
P	4,08	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector

*Information furnished is believed to be accurate and reliable. However, CS assumes no responsibility for the consequences of use of such information nor for errors that could appear.
Data are subject to change without notice.*