



2N4901 – 2N4902 – 2N4903

PNP SILICON TRANSISTORS, EPITAXIAL BASE

The 2N4901, 2N4902, 2N4903 are mounted in Jedec TO-66 metal case. They are intended for general-purpose switching and power amplifier applications. Compliance to RoHS.

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		-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		-5	A	
I_{CM}	Collector Current – Peak	$t_p=5\text{ ms}$	-10	A	
I_B	Base Current – Continuous		-1	A	
P_{TOT}	Power Dissipation		87.5	W	
T_J	Junction Temperature		200	°C	
T_{STG}	Storage Temperature		-65 to +200	°C	

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

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ELECTRICAL CHARACTERISTICS

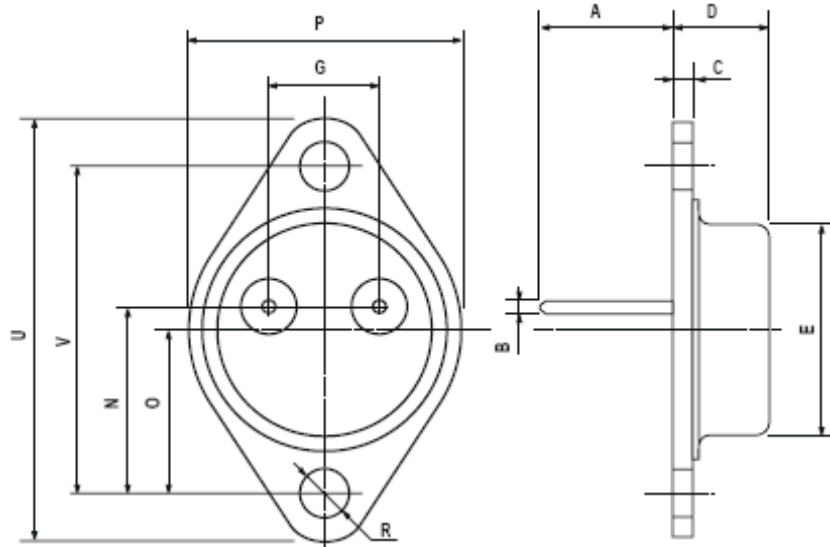
TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	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	-	-	0.1	mA
		$V_{CE}=-60\text{ V}, I_E=0$	2N4902	-	-	0.1	
		$V_{CE}=-80\text{ V}, I_E=0$	2N4903	-	-	0.1	
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	
		$V_{CE}=-80\text{ V}, V_{EB}=1.5\text{ V}$ $T_{CASE}=150^\circ\text{C}$		-	-	-2.0	
I_{EBO}	Emitter Cutoff Current	$V_{BE}=5.0\text{ V}, I_C=0$	2N4901	-	-	-1.0	mA
			2N4902				
			2N4903				
h_{FE}	DC Current Gain (*)	$V_{CE}=-2.0\text{ V}, I_C=-1.0\text{ A}$	2N4901	20	-	80	V
			2N4902				
			2N4903				
		$V_{CE}=-2.0\text{ V}, I_C=-5.0\text{ A}$	2N4901	7	-	-	
			2N4902				
			2N4903				
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C=-1.0\text{ A}, I_B=-0.1\text{ A}$	2N4901	-	-	-0.4	V
			2N4902				
			2N4903				
		$I_C=-5.0\text{ A}, I_B=-1.0\text{ A}$	2N4901	-	-	-1.5	
			2N4902				
			2N4903				
V_{BE}	Base-Emitter Voltage (*)	$I_C=-1.0\text{ A}, V_{CE}=-2.0\text{ V}$	2N4901	-	-	-1.2	V
			2N4902				
			2N4903				
$V_{BE(SAT)}$	Base-Emitter Saturation Voltage (*)	$I_C=-5.0\text{ A}, I_B=-1.0\text{ A}$	2N4901	-	1.7	-	V
			2N4902				
			2N4903				
H_{fe}	Forward Current Transfer Ratio (*)	$V_{CE}=-10\text{ V}, I_C=-0.5\text{ A}$ $f=1\text{ MHz}$	20	-	-	V	
f_T	Transition Frequency	$V_{CE}=-10\text{ V}, I_C=-1.0\text{ A}, f=1.0\text{ kHz}$	4	-	-	MHz	
$I_{s/b}$	Second Breakdown Collector Current	$t=1\text{ s}, V_{CE}=40\text{ V}, T_{CASE}=100^\circ\text{C}$	1.25	-	-	A	

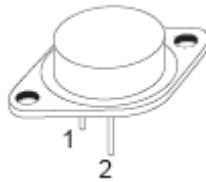
(*) Pulse Width $\approx 300\ \mu\text{s}$, Duty Cycle $\angle 2.0\%$

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MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)		
	min	max
A	11	13.10
B	0.97	1.15
C	1.5	1.65
D	8.32	8.92
F	19	20
G	10.70	11.1
N	16.50	17.20
P	25	26
R	4	4.09
U	38.50	39.30
V	30	30.30



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



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