2N4904 – 2N4905 – 2N4906

PNP SILICON TRANSISTORS, EPITAXIAL BASE

The 2N4904, 2N4905, 2N4906 are mounted in Jedec TO-3 metal case.
They are intended for general–purpose switching and power amplifier applications.
Complement to type 2N4913, 2N4914, 2N4915.
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CBO}	Collector to Base Voltage		2N4904	-40	V
			2N4905	-60	
			2N4906	-80	
V_{CEO}	#Collector-Emitter Voltage		2N4904	-40	V
			2N4905	-60	
			2N4906	-80	
V_{CEX}	Collector-Base Voltage	V_{BE}=1.5 V	2N4904	-40	V
			2N4905	-60	
			2N4906	-80	
V_{EBO}	Emitter-Base Voltage			-5	V
I_C	Collector Current – Continuous			-5	A
I_{CM}	Collector Current – Peak	t_p=5 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	43.7	°C/W

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage	I_C=200 mAdc, I_B=0	2N4904	-40	-	-	V
			2N4905	-60			
			2N4906	-80			
I_{CBO}	Collector-Base cut-off Current	V_{CE}=-40 V, I_E=0	2N4904	-	-	0.1	mA
		V_{CE}=-60 V, I_E=0	2N4905	-	-	0.1	
		V_{CE}=-80 V, I_E=0	2N4906	-	-	0.1	
I_{CEX}	Collector Cutoff Current	V_{CE}=-40 V, V_{EB}=1.5 V	2N4904	-	-	-0.1	mA
		V_{CE}=-40 V, V_{EB}=1.5 V T_{CASE}=150°C		-	-	-2.0	
		V_{CE}=-60 V, V_{EB}=1.5 V	2N4905	-	-	-0.1	
		V_{CE}=-60 V, V_{EB}=1.5 V T_{CASE}=150°C		-	-	-2.0	
		V_{CE}=-80 V, V_{EB}=1.5 V	2N4906	-	-	-0.1	
		V_{CE}=-80 V, V_{EB}=1.5 V T_{CASE}=150°C		-	-	-2.0	
I_{EBO}	Emitter Cutoff Current	V_{BE}=5.0 V, I_C=0	2N4904	-	-	-1.0	mA
			2N4905				
			2N4906				
h_{FE}	DC Current Gain (*)	V_{CE}=-2.0 V, I_C=-2.5 A	2N4904	25	-	100	V
			2N4905				
			2N4906				
		V_{CE}=-2.0 V, I_C=-5.0 A	2N4904	7	-	-	
			2N4905				
			2N4906				
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C=-2.5 A, I_B=-0.25 A	2N4904	-	-	-1.0	V
			2N4905				
			2N4906				
		I_C=-5.0 A, I_B=-1.0 A	2N4904	-	-	-1.5	
			2N4905				
			2N4906				
V_{BE}	Base-Emitter Voltage (*)	I_C=-2.5 A, V_{CE}=-2.0 V	2N4904	-	-	-1.4	V
			2N4905				
			2N4906				
f_T	Transition Frequency	V_{CE}=-10 V, I_C=-1 A f= 1.0 MHz	2N4904	4	-	-	MHz
			2N4905				
			2N4906				

(*) Pulse Width ≈ 300 μs, Duty Cycle ∠ 2.0%

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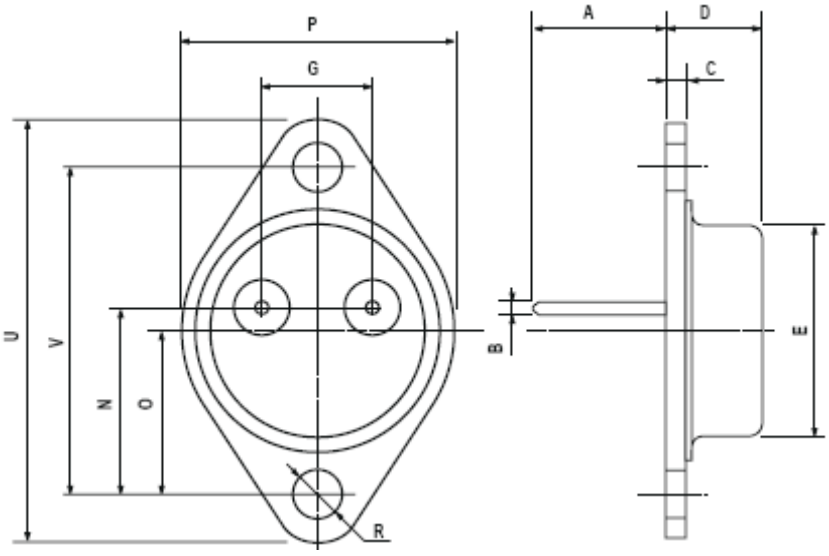
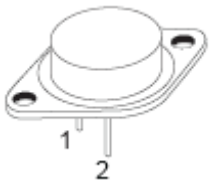
MECHANICAL DATA CASE TO-3

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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