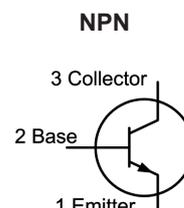


**RoHS
Compliant**



Description:

The 2N3902 is a silicon NPN transistor in a TO-3 type Package designed for use in high voltage inverters, converters, switching regulators and line Operated amplifiers.



Maximum Ratings:

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEX}	700	V
Collector-Emitter Voltage	$V_{CEO(sus)}$	400	
Emitter Base Voltage	V_{EB}	5	
Collector Current -Continuous	I_C	3.5	A
Peak Base Current	I_B	2	
Total Device Dissipation $-(T_C = +75^\circ C)$, Derate Above $95^\circ C$	P_D	100 1.33	W W/ $^\circ C$
Operating Junction Temperature Range	T_J	-65 to +150	$^\circ C$
Storage Temperature Range,	T_{sta}	-65 to +200	
Thermal Resistance, Junction-to-Case	R_{thJC}	0.75	$^\circ C/W$
Maximum Lead temperature (During Soldering, 1/8" from case, 5sec)	T_L	+275	$^\circ C$

Electrical Characteristics: ($T_C = +25^\circ C$ Unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Max	Unit
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OFF Characteristics (Note 2)

Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 100mA, I_B = 0$	325	-	V
Collector Cutoff Current	I_{CEO}	$V_{CE} = 400V, V_{BE} = 0$	-	0.25	mA
Emitter-Base Voltage	I_{EBO}	$I_E = 100mA, I_C = 5V$		5	

ON Characteristics (Note 2)

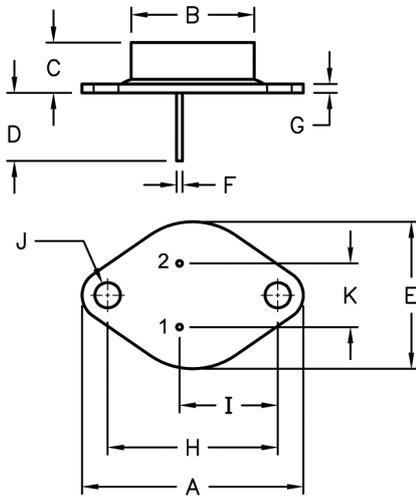
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 1A$	30	90	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2.5A, I_B = 0.5A$	-	2.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			2	

Dynamic Characteristics

Current Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 200mA, f = 1MHz$	2.8	-	MHz
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Note:

1. Pulse Test : Pulse Width = 5ms, Duty Cycle $\leq 10\%$
2. Pulse Test : Pulse Width = 300 μs , Duty Cycle $\leq 2\%$



Pin Configuration:

- Pin 1. Base
- Pin 2. Emitter
- Collector (Case)

Dim	A	B	C	D	E	F	G	H	I	J	K
Min.	38.75	19.28	7.96	11.18	25.2	0.92	1.38	29.9	16.64	3.88	10.67
Max.	39.96	22.23	9.28	12.19	26.67	1.09	1.62	30.4	17.3	4.36	11.18

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, NPN, 3.5A, 400V, TO-3	2N3902

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