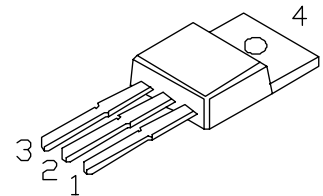
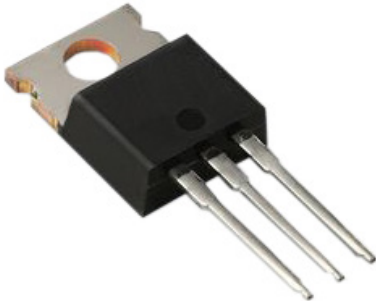


RoHS  
Compliant



## Features:

- High DC Current Gain
- Collector-Emitter Sustaining Voltage:  $V = 100V$  Min
- Monolithic Construction with Built-in Base-Emitter Shunt Resistors

## Pin Configuration:

1. Base
2. Collector
3. Emitter
4. Collector

## Absolute Maximum Ratings:

Parameters	Symbol	Unit
Collector Emitter Voltage	$V_{CEO}$	100V
Collector-Base Voltage	$V_{CBO}$	
Emitter-Base Voltage	$V_{EBO}$	5V
Collector Current	$I_C$	8A
Collector Peak Current	$I_{CM}$	16A
Base Current	$I_B$	120mA
Total Power Dissipation upto $T_c = 25^\circ C$ Derate above $25^\circ C$	$P_{tot}$	75W 0.6W/ $^\circ C$
Total Power Dissipation upto $T = 25^\circ C$ Derate above $25^\circ C$		2.2W 0.0175W/ $^\circ C$
Operating Junction Temperature Range	$T_j$	-65° to +150°C
Storage Temperature Range	$T_{stg}$	-65° to +150°C
Thermal Resistance, Junction-to-Case	$R_{th(j-c)}$	1.67°C/W
Thermal Resistance, Junction-to-Ambient	$R_{th(j-a)}$	57°C/W

## Electrical Characteristics: (T<sub>A</sub> = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
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### OFF Characteristics

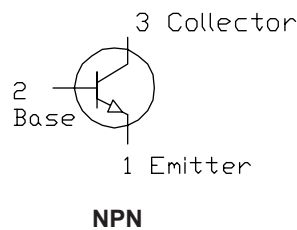
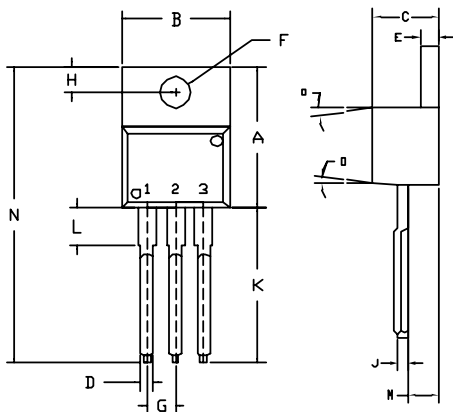
Collector-Emitter Sustaining Voltage	V <sub>CEO(SUS)</sub>	I <sub>C</sub> = 100mA, I <sub>B</sub> = 0	100	-	-	V
Collector Cutoff Current	I <sub>CEO</sub>	I <sub>C</sub> = 0; V <sub>EB</sub> = 100V	-	-	20	μA
		V <sub>CE</sub> = 100V, V <sub>BE(OFF)</sub> = 1.5V	-	-	20	μA
	I <sub>CEX</sub>	V <sub>CB</sub> = 100V, V <sub>BE(OFF)</sub> = 1.5V T <sub>C</sub> = 150°C	-	-	0.2	mA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>BE</sub> = 5V, I <sub>C</sub> = 0	-	-	2	mA

### ON Characteristics

DC Current Gain	h <sub>FE</sub>	I <sub>C</sub> = 3A, V <sub>CE</sub> = 4V	1,000	-	20,000	-
		I <sub>C</sub> = 8A, V <sub>CE</sub> = 4V	100	-	-	-
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	I <sub>C</sub> = 3A, I <sub>B</sub> = 12mA	-	-	2	V
		I <sub>C</sub> = 8A, I <sub>B</sub> = 80mA	-	-	4	V
Base-Emitter ON Voltage	V <sub>BE(ON)</sub>	I <sub>C</sub> = 4A, V <sub>CE</sub> = 4V	-	-	2.8	V

### Dynamic Characteristics

Small-Signal Current Gain	h <sub>FEF</sub>	I <sub>C</sub> = 3A, V <sub>CE</sub> = 4V, f = 1MHz	4	-	-	-
Output Capacitance	C <sub>OB</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 0.1MHz	-	-	300	pF



### Pin Configuration:

1. Base
2. Collector
3. Emitter
4. Collector

Dimensions	Min.	Max.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	-	0.9
E	1.15	1.4
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J	-	0.56
K	12.7	14.73
L	2.8	4.07
M	2.03	2.92
N	-	31.24
O	7°	

Dimensions : Millimetres

### Part Number Table

Description	Part Number
Bipolar Transistor, PNP, TO-220	2N6042

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