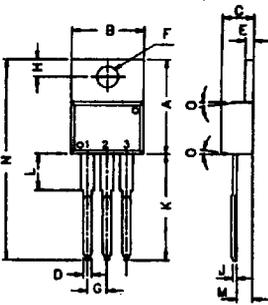
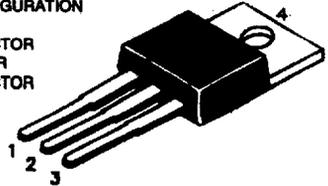


**2N6101 NPN PLASTIC POWER TRANSISTOR**

Medium Power Linear and Switching Service in Consumer, Automotive, and Industrial Applications

**PIN CONFIGURATION**

- 1. BASE
- 2. COLLECTOR
- 3. EMITTER
- 4. COLLECTOR



ALL DIMENSIONS ARE IN M.M.

DIM	MIN	MAX
A	14,42	18,51
B	9,63	10,87
C	3,56	4,83
D	-	0,90
E	1,15	1,40
F	3,75	3,88
G	2,29	2,79
H	2,54	3,43
J	-	0,56
K	12,70	14,73
L	-	6,35
M	2,03	2,92
N	-	31,24
O	7 DEG	

**ABSOLUTE MAXIMUM RATINGS**

- Collector-base voltage (open emitter)
- Collector-emitter voltage (open base)
- Collector current
- Total power dissipation up to  $T_C = 25^\circ\text{C}$
- Junction temperature
- Collector-emitter saturation voltage  
 $I_C = 10\text{ A}; I_B = 2\text{ A}$
- D.C. current gain  
 $I_C = 5\text{ A}; V_{CE} = 4\text{ V}$

$V_{CBO}$	max.	80 V
$V_{CEO}$	max.	70 V
$I_C$	max.	10 A
$P_{tot}$	max.	75 W
$T_j$	max.	150 °C
$V_{CEsat}$	max.	2.5 V
$h_{FE}$	min.	20
	max.	80

**RATINGS (at  $T_A = 25^\circ\text{C}$  unless otherwise specified)**

Limiting values

- Collector-base voltage (open emitter)
- Collector-emitter voltage (open base)
- Collector-emitter voltage ( $R_{BE} = 100\Omega$ )
- Emitter-base voltage (open collector)
- Collector current
- Base current

$V_{CBO}$	max.	80 V
$V_{CEO}$	max.	70 V
$V_{CER}$	max.	75 V
$V_{EBO}$	max.	8.0 V
$I_C$	max.	10 A
$I_B$	max.	4 A

Total power dissipation up to  $T_C = 25^\circ\text{C}$   
 Derate above  $25^\circ\text{C}$   
 Total power dissipation up to  $T_A = 25^\circ\text{C}$   
 Derate above  $25^\circ\text{C}$   
 Junction temperature  
 Storage temperature

$P_{tot}$	max.	75 W
	max.	0.6 W/ $^\circ\text{C}$
$P_{tot}$	max.	1.8 W
	max.	0.0144 W/ $^\circ\text{C}$
$T_j$	max.	150 $^\circ\text{C}$
$T_{stg}$		-65 to +150 $^\circ\text{C}$

**THERMAL RESISTANCE**

From junction to ambient  
 From junction to case

$R_{th\ j-a}$	70 $^\circ\text{C}/\text{W}$
$R_{th\ j-c}$	1.67 $^\circ\text{C}/\text{W}$

**CHARACTERISTICS**

$T_{amb} = 25^\circ\text{C}$  unless otherwise specified

Collector cutoff current

$V_{BE} = 1.5\text{ V}; V_{CE} = 75\text{ V}$   
 $V_{BE} = 1.5\text{ V}; V_{CE} = 75\text{ V}; T_C = 150^\circ\text{C}$   
 $I_B = 0; V_{CE} = 60\text{ V}$

$I_{CEX}$	max.	2.0 mA
$I_{CEX}$	max.	10 mA
$I_{CEO}$	max.	2.0 mA

Emitter cut-off current

$I_C = 0; V_{EB} = 8\text{ V}$

$I_{EBO}$	max.	1.0 mA
-----------	------	--------

Breakdown voltages

$I_C = 200\text{ mA}; I_B = 0$   
 $I_C = 1\text{ mA}; I_E = 0$   
 $I_E = 1\text{ mA}; I_C = 0$

$V_{CEO(sus)}^*$	min.	70 V
$V_{CBO}$	min.	80 V
$V_{EBO}$	min.	8.0 V

Saturation voltage

$I_C = 10\text{ A}; I_B = 2\text{ A}$

$V_{CEsat}^*$	max.	2.5 V
---------------	------	-------

Base emitter on voltage

$I_C = 5\text{ A}; V_{CE} = 4\text{ V}$

$V_{BE(on)}^*$	max.	1.7 V
----------------	------	-------

D.C. current gain

$I_C = 5\text{ A}; V_{CE} = 4\text{ V}$

$h_{FE}^*$	min.	20
	max.	80

Small signal current gain

$I_C = 10\text{ A}; V_{CE} = 4\text{ V}$   
 $I_C = 0.5\text{ A}; V_{CE} = 4\text{ V}; f = 0.1\text{ MHz}$

$h_{FE}^*$	min.	5.0
$ h_{fe} $	min.	8.0
	max.	28

$I_C = 0.5\text{ A}; V_{CE} = 4\text{ V}; f = 1\text{ KHz}$

$h_{fe}$	min.	15
----------	------	----

\* Pulsed: pulse duration = 300  $\mu\text{s}$ ; Duty factor = 0.018.