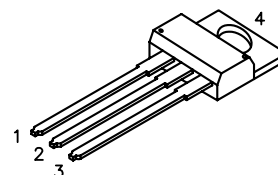
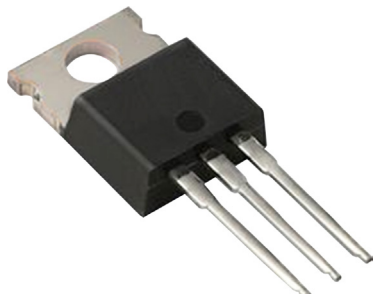


General Purpose Power Transistor

RoHS
Compliant



Pin Configuration

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

Description:

Silicon, TO-220, Plastic, PNP power Transistor Designed for use in general purpose amplifier and switching applications.

Features:

- High Current Gain Bandwidth Product f_r 10MHz (Min.) @ I_C 500mA
- Collector Emitter Sustaining Voltage V_{CEO} 70V (Min.)

Absolute Maximum Rating:

Parameters	Symbol	Value
Collector-Base Voltage	V_{CBO}	80V
Collector-Emitter Voltage	V_{CEO}	70V
Emitter-Base Voltage	V_{EBO}	5V
Continuous Collector Current	I_C	7A
Base Current	I_B	3A
Total Device Dissipation ($T_C = +25^\circ\text{C}$) Derate above $25^\circ\text{C} = 0.32\text{mW}/^\circ\text{C}$	P_D	40W
Operating Junction Temperature Range	T_J	-65°C to $+150^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65°C to $+150^\circ\text{C}$

General Purpose Power Transistor

Electrical Characteristics: ($T_C = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Max	Unit
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OFF Characteristics

Collector-Emitter Breakdown Voltage (Note 1)	$V_{(BR)CEO}$	$I_C = 100\text{mA}, I_B = 0$	70	-	V
Collector Cut-Off Current	I_{CEX}	$V_{CE} = 80\text{V}, V_{EB(off)} = 1.5\text{V}$	-	100	μA
	I_{CEO}	$V_{CB} = 60\text{V}, I_B = 0$	-	1	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	-	1	mA

ON Characteristics

DC Current Gain (Note 1)	h_{FE}	$V_{CE} = 4\text{V}, I_C = 2\text{A}$	30	150	-
		$V_{CE} = 4\text{V}, I_C = 7\text{A}$	2.3	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 7\text{A}, I_B = 3\text{A}$	-	3.5	V
Base-Emitter On Voltage	$V_{BE(on)}$	$I_C = 7\text{A}, V_{CE} = 4\text{A}$	-	3	V

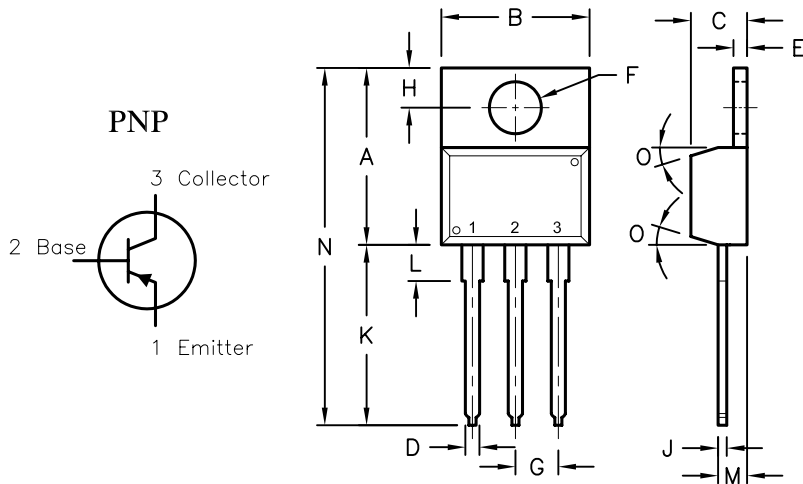
Small Signal Characteristics

Current Gain-Bandwidth Product (Note 2)	f_r	$V_{CE} = 4\text{V}, I_C = 500\text{mA}, f = 1\text{MHz}$	10	-	MHz
Output Capacitance	C_{obo}	$V_{CB} = 10\text{V}, I_C = 0.5\text{A}, f = 50\text{kHz}$	-	250	pF
Small-Signal Current Gain	h_{fe}	$V_{CE} = 4\text{V}, I_C = 0.5\text{A}, f = 50\text{kHz}$	20	-	-

Notes:

1. Pulse Test: Pulse width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.
2. f_T is defined as the frequency at which $|h_{fe}|$ extrapolated to unity.

General Purpose Power Transistor



Dimensions	A	B	C	D	E	F	G	H	J	K	L	M	N	O
Min.	14.42	9.63	3.56	-	1.15	3.75	2.29	2.54	-	12.7	2.8	2.03	-	7°
Max	16.51	10.67	4.83	0.9	1.4	3.88	2.79	3.43	0.56	14.73	4.07	2.92	31.21	

Dimensions : Millimetres

Part Number Table

Description	Part Number
General Purpose Power Transistor, Silicon, Plastic, TO-220, PNP	2N6107

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