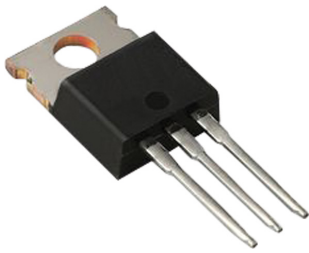


# General Purpose Transistor



## Description:

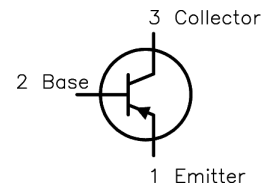
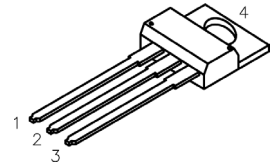
A silicon PNP Darlington transistor in a TO-220 type case designed for general-purpose amplifier and low-speed switching applications.

## Features:

- High DC Current Gain
- Monolithic Construction with Built-in Base-Emitter Shunt Resistors

**RoHS  
Compliant**

**PNP**



## Pin Configuration:

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

## Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Collector-Emitter Voltage	$V_{CEO}$	80	V
Collector-Base Voltage	$V_{CBO}$	80	
Emitter-Base Voltage	$V_{EBO}$	5	
Continuous Collector Current Peak	$I_C$	4 6	A
Total Device Dissipation at $T_c = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	50 0.4	W mW/ $^\circ\text{C}$
Total Device Dissipation at $T_c = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	2 0.016	
Operating and Storage Junction Temperature Range	$T_j, T_{stg}$	-65 to +120	$^\circ\text{C}$
Thermal Resistance, Junction-to-Case	$R_{thJC}$	2.5	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Ambient (Note 1)	$R_{thJA}$	62.5	

## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ unless otherwise specified)

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

Collector - Emitter Breakdown Voltage (Note 2)	$V_{(BR)CEO}$	$I_C=30\text{mA}, I_B=0$	80	-	V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=80\text{V}, I_E=0$	-	1	mA
	$I_{CEO}$	$V_{CB}=40\text{V}, I_B=0$	-	2	
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$	-	2	

### ON Characteristics (Note 2)

DC Current Gain	$h_{FE}$	$V_{CE}=4\text{V}, I_C=1\text{A}$	1,000	-	-
		$V_{CE}=4\text{V}, I_C=2\text{A}$	500	-	-

# General Purpose Transistor

## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ unless otherwise specified)

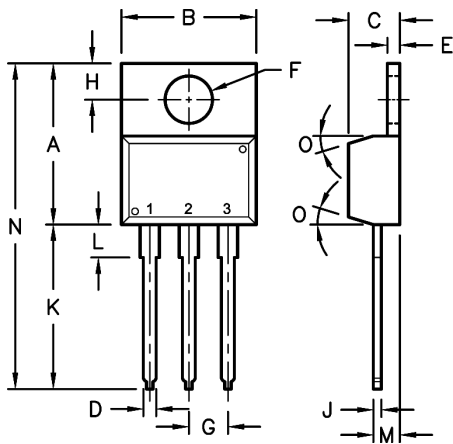
Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2A, I_B=8mA$	-	2.5	V
Base-Emitter On Voltage	$V_{BE(on)}$	$I_C=2A, V_{CE}=4V$	-	2.8	

## Dynamic Characteristics

Output Capacitance	$C_{obo}$	$V_{CB}=10V, I_E=0, f=0.1MHz$	-		pF
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Note 1.  $I_C = 1A, L = 100mH, P.R.F = 10Hz, V_{CC} = 20V, R_{BE} = 100\Omega$ .

Note 2. Pulse test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .



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

## Pin Configuration:

1. Emitter
2. Base
3. Collector

## Part Number Table

Description	Part Number
Transistor, PNP, 2A, 60V, TO-220	TIP116

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