

Pin Configuration

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

Description:

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

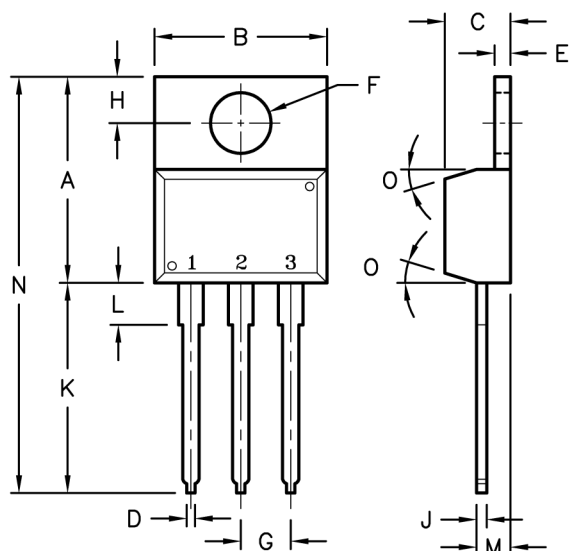
Absolute Maximum Ratings:

Collector-Base Voltage, V_{CBO}	: 80V
Collector-Emitter Voltage, V_{CEO}	: 80V
Collector Current, I_C	: DC: 8A Pulse: 15A
Base Current, I_B	: 1A
Collector Dissipation ($T_C = +25^\circ\text{C}$), P_C	: 80W
Operating Junction Temperature, T_J	: $+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	: -65°C to $+150^\circ\text{C}$
Thermal Resistance, Junction-to-Case, R_{thJC}	: 1.56°C/W

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

Parameter	Symbol	Test Conditions	Min.	Typ	Max.	Unit
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 30\text{mA}$, $I_B = 0$, Note 1	80	-	-	V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = 80\text{V}$, $I_E = 0$	-	-	50	μA
	I_{CEO}	$V_{CE} = 40\text{V}$, $I_B = 0$	-	-	50	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$	-	-	8	mA
DC Current Gain	h_{FE}	$I_C = 3\text{A}$, $V_{CE} = 4\text{V}$	1,000	-	20,000	-
		$I_C = 8\text{A}$, $V_{CE} = 4\text{V}$	200	-	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3\text{A}$, $I_B = 6\text{mA}$, Note 1	-	-	2	V
		$I_C = 8\text{A}$, $I_B = 80\text{mA}$, Note 1	-	-	2.5	
Base-Emitter Saturation Voltage	$V_{BE(on)}$	$I_C = 8\text{A}$, $I_B = 4\text{V}$, Note 1	-	-	2.8	
Small-Signal Current Gain	h_{fe}	$I_C = 3\text{A}$, $V_{CE} = 4\text{V}$, $f = 1\text{MHz}$	4	-	-	-

Note 1. Pulse Test: Pulse Width = $300\mu\text{s}$, Duty Cycle = 1.5%.



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Dim.	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°	7°

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, NPN, 8A, 80V, TO-220	TIP101

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