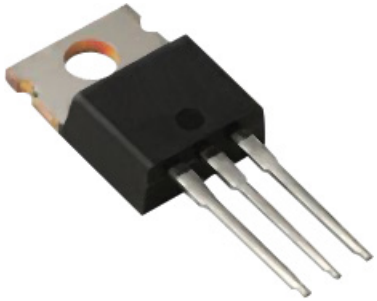
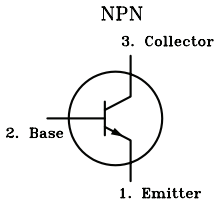
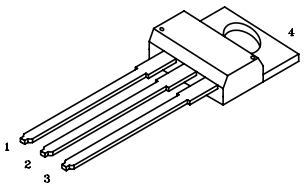
Transistor

RoHS Compliant







Pin Configuration

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

Description:

A silicon Darlington transistor in a T0-220 case intended for general purpose amplifier and low speed switching applications.

Absolute Maximum Ratings:

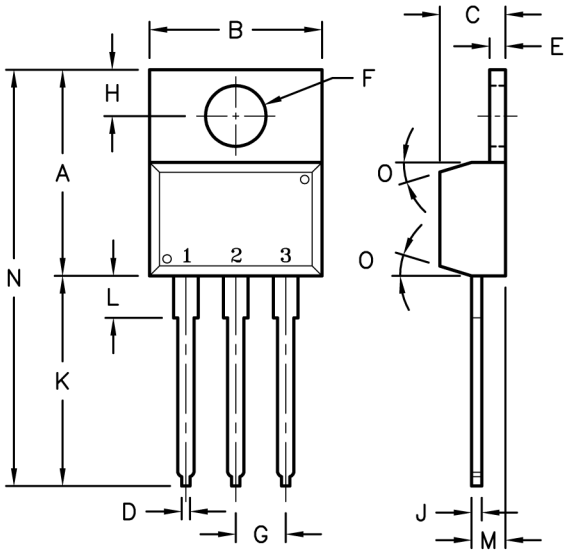
Collector-Base Voltage, V_{CBO}	: 80V
Collector-Emitter Voltage, V_{CEO}	: 80V
Collector Current, I_C	: DC: 8A Pulse: 15A
Base Current, I_B	: 1A
Collector Dissipation (T_C = +25°C), P_C	: 80W
Operating Junction Temperature, T_J	: +150°C
Storage Temperature Range, T_{stg}	: -65°C to +150°C
Thermal Resistance,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

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

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

Note 1. Pulse Test: Pulse Width = 300µs, Duty Cycle = 1.5%.

Transistor



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

Pin Configuration

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

Part Number Table

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