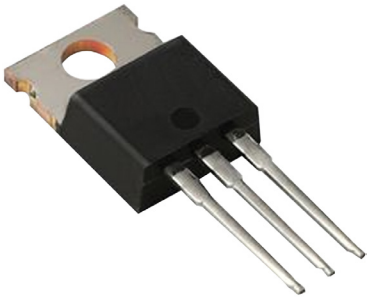
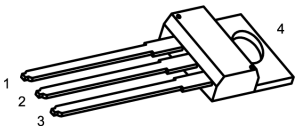
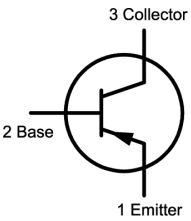
Transistor
General Purpose

RoHS Compliant







Description:

A Silicon epitaxial PNP Darlington transistor in a TO-220 type Case designed for general-purpose amplifier and Low speed switching circuits.

Pin Configuration:
1. Emitter
2. Base
3. Collector

Features:

- High DC Current Gain
- Collector-Emitter Sustaining Voltage $V_{CEO(SUS)}$=100V Min.
- Monolithic Construction With Built-in Base-Emitter Shunt Resistors

Maximum Ratings:

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	80	V
Collector-Base Voltage	V_{CB}		
Emitter-Base Voltage	V_{EB}	5	
Collector Current -Continuous -Peak	I_C	8 16	A
Base Current	I_B	120	mA
Total Device Dissipation -(T_C = +25°C), Derate Above 25°C	P_D	75 0.6	W W/°C
Total Device Dissipation -(T_A = +25°C), Derate Above 25°C		2.2 0.0175	
Operating Junction Temperature Range	T_J	-65 to +150	°C
Storage Temperature Range,	T_{stg}		
Thermal Resistance, Junction-to-Case,	R_{thJC}	1.67	°C/W
Thermal Resistance, Junction-to-Ambient,	R_{thJA}	57	

Transistor
General Purpose

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
Collector-Emitter Saturation Voltage	$V_{CEO(SUS)}$	I_C = 100mA, I_B = 0, Note 1	80	-	V
Collector Cutoff Current	I_{CEO}	V_{CE} = 80V, I_B = 0	-	20	µA
	I_{CEX}	V_{CE} = 80V, $V_{BE(off)}$ = -1.5V			
		V_{CE} = 80V, $V_{BE\ (off)}$= -1.5V ,T_C = +150°C		200	
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0		2	mA

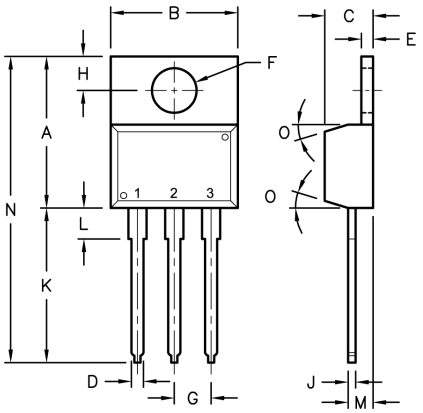
On Characteristics

DC Current Gain	h_{FE}	V_{CE} = 4V, I_C = 4A	1,000	20,000	-
		V_{CE} = 4V, I_C = 8A	100	-	
Collector-Emitter Saturation Voltage	$V_{CE(Sat)}$	I_C = 4A, I_B = 16mA	-	2	V
		I_C = 8A, I_B = 80mA		4	
Base-Emitter ON Voltage	$V_{BE(on)}$	V_{CE} = 4V, I_C = 4A		2.8	

Dunamic Characteristics

Small-Signal Current Gain	h_{fe}	V_{CE} = 5V, I_C = 1A, f = 1MHz	4	-	-
	h_{fe}	V_{CE} = 4V, I_C = 3A, f = 1kHz	300		
Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = .1MHz	-	300	pF

Note:
1. Pulse Width = 300µs, Duty Cycle ≦2%



Dimension	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, 8A, 80V, TO-220	2N6124