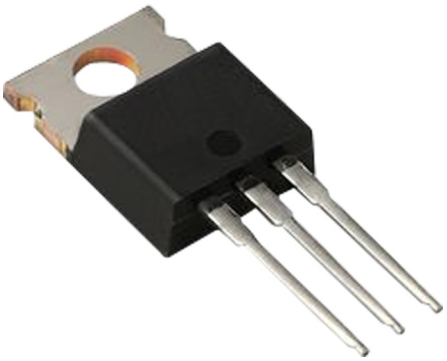
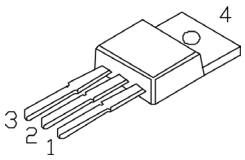
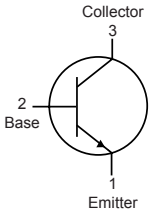
Power Transistor

RoHS Compliant



NPN





Maximum Ratings:

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	70	V
Collector-Emitter Voltage	V_{CEO}	80	
Emitter-Base Voltage	V_{EBO}	5	
Continuous Collector Current	I_C	7	A
Base Current	I_B	3	
Total Device Dissipation (T_C = +25°C) Derate Above 25°C	P_D	40	W mW/°C
Operating Junction Temperature Range	T_J	-65 to +150	°C
Storage Temperature Range	T_{stg}		

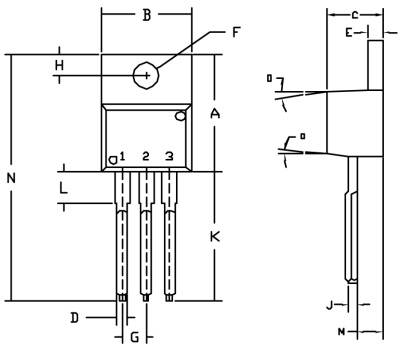
Power Transistor

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

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage (Note 1)	$V_{(BR)CEO}$	I_C = 100mA, I_B = 0	70	-	V
Collector Cut-Off Current	I_{CEX}	V_{CE} = 80V, $V_{EB(off)}$ = 1.5V	-	100	µA
	I_{CEO}	V_{CB} = 60V, I_B = 0		1	mA
Emitter Cut-Off Current	I_{EBO}	V_{EB} = 5V, I_C = 0			
ON Characteristics					
DC Current Gain (Note 1)	h_{FE}	V_{CE} = 4V, I_C = 2A	30	150	-
		V_{CE} = 4V, I_C = 7A	2.3	-	
Collector - Emitter Saturation Voltage (Note 1)	$V_{CE(sat)}$	I_C = 7A, I_B = 3A	-	3.5	V
Base - Emitter on Voltage (Note 1)	$V_{BE(on)}$	I_C = 7A, V_{CE} = 4V		3	
Small Signal Characteristics					
Current Gain-Bandwidth Product (Note 2)	f_T	V_{CE} = 4V, I_C = 500mA, f = 1MHz	4	-	MHz
Output Capacitance	C_{ObO}	V_{CB} = 10V, I_E = 0, f = 1MHz	-	250	pF
Small-Signal Current Gain	h_{fe}	V_{CE} = 4V, I_C = .5A, f = 50MHz	-	0.3	Ω

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

Note 2 : f_T is defined as the frequency at which |hfe| extrapolates to unity



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	DEF 7	

Dimensions : Millimetres

Pin Configuration:

1 Base
2 Collector
3. Emitter
4. Collector

Part Number Table

Description	Part Number
Transistor, NPN, 7A, 70V, TO-220	2N6292