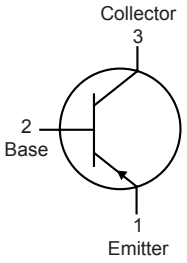
Bipolar Transistor

RoHS Compliant

NPN



Description:

Silicon TO-126, PNP Power Transistor for use in power amplifier and switching excellent safe area limits

Maximum Ratings:

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}		
Emitter-Base Voltage	V_{EBO}	5	
Continuous Collector Current	I_C	4	A
Base Current	I_B	1	
Total Device Dissipation (T_C = +25°C) Derate Above 25°C	P_D	40 320	W mW/°C
Operating Junction Temperature Range	T_J	-65 to +150	°C
Storage Temperature Range	T_{stg}		

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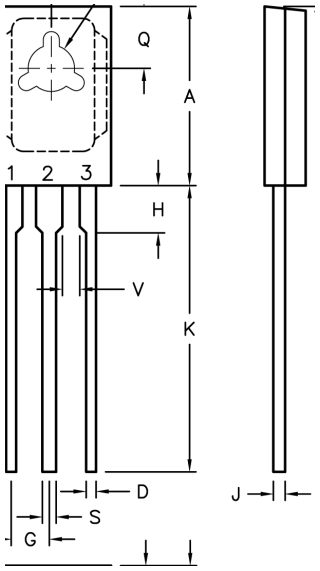
Electrical Characteristics (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage (Note 1)	$V_{(BR)CEO}$	I_C = 0.1A, I_B = 0	40	-	V
Collector Cut-Off Current	I_{CEX}	V_{CE} = 40$V_{EB(off)}$ = 1.5V	-	0.1	mA
	I_{CBO}	V_{CB} = 40V, I_E = 0			
	I_{CEO}	V_{CE} = 80V, I_B = 0		1	
Emitter Cut-Off Current	I_{EBO}	V_{EB} = 5V, I_C = 0			
ON Characteristics					
DC Current Gain (Note 1)	h_{FE}	V_{CE} = 2V, I_C = 1.5A	25	100	-
		V_{CE} = 2V, I_C = 4A	10	-	
Collector - Emitter Saturation Voltage (Note 1)	$V_{CE(sat)}$	I_C = 1.5A, I_B = 0.15A	-	0.6	V
		I_C = 4A, I_B = 1A		1.4	
Base - Emitter on Voltage (Note 1)	$V_{BE(on)}$	I_C = 1.5A, I_B = 2V		1.2	
Small Signal Characteristics					
Current Gain-Bandwidth Product (Note 2)	f_T	V_{CE} = 10V, I_C = 1A, f = 1MHz	2	-	MHz

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

Note 2 : f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity



Dimensions	Min.	Max.
A	10.8	11.05
B	7.49	7.75
C	2.41	2.67
D	0.51	0.66
F	2.92	3.18
G	2.31	2.46
H	1.27	2.41
J	0.38	0.64
K	15.11	16.64
M	3° TYP	
Q	3.76	4.01
R	1.14	1.4
S	0.64	0.89
U	3.68	3.94
V	1.02	-

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, PNP, 1A, 40V, TO-126	2N5193