

Description:

A silicon epitaxial NPN planer transistor in a TO-39 type package designed for use as drivers for high power transistors in general purpose amplifier and switching circuits.



Absolute Maximum Ratings:

Collector-Emitter Voltage, V_{CEO}	: 120V
Collector-Base Voltage, ($I_E = 0$), V_{CEO}	: 120V
Emitter-Base Voltage, ($I_C = 0$), V_{EBO}	: 4V
Collector Current, I_C	: 1A
Base Current I_B	: 500mA
Total Device Dissipation ($T_C = +25^\circ\text{C}$), P_{tot}	: 10W
Total Device Dissipation ($T_A = +25^\circ\text{C}$), P_{tot}	: 1W
Operating Junction Temperature Range, T_J	: $+200^\circ\text{C}$
Storage Temperature Range, T_{stg}	: -65°C to $+200^\circ\text{C}$
Thermal resistance, Junction-to-Case, R_{THJC}	: 17.4°C/W
Thermal resistance, Junction-to-Ambient, R_{THJA}	: $175^\circ\text{C/W } ^\circ\text{C}$

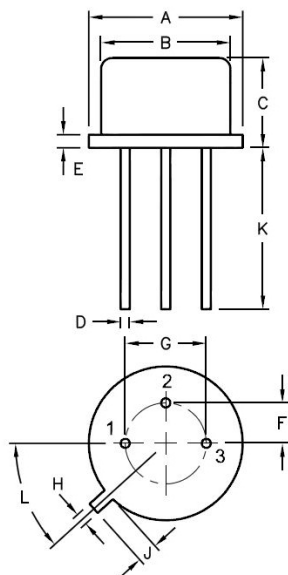
Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 120\text{V}, I_E = 0$	-	1	μA
	I_{CEO}	$V_{CE} = 80\text{V}, I_B = 0$	-	10	μA
	I_{CEV}	$V_{CE} = 120\text{V}, V_{BE} = -1.5\text{V}$	-	1	μA
		$V_{CE} = 120\text{V}, V_{BE} = -1.5\text{V}, T_C = +150^\circ\text{C}$	-	1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$	-	1	μA
Collector-Emitter Sustaining Voltage	$V_{CEO(SUS)}$	$I_C = 10\text{mA}, I_B = 0$, Note 1	120	-	V
Collector-Emitter Sustaining Voltage	$V_{CE(SUS)}$	$I_C = 250\text{mA}, I_B = 25\text{mA}$, Note 1	-	0.6	
		$I_C = 500\text{mA}, I_B = 50\text{mA}$, Note 1	-	1	
		$I_C = 1\text{A}, I_B = 200\text{mA}$, Note 1	-	2	
Base-Emitter Voltage	$V_{BE(ON)}$	$V_{CE} = 2\text{V}, I_C = 250\text{mA}$	-	1	
DC Current Gain	h_{FE}	$I_C = 250\text{mA}, V_{CE} = 2\text{V}$, Note 1	40	150	-
		$I_C = 1\text{A}, V_{CE} = 2\text{V}$, Note 1	5	-	-

Note 1. Pulse Duration : 300 μs , Duty Cycle $\leq$ 2%.

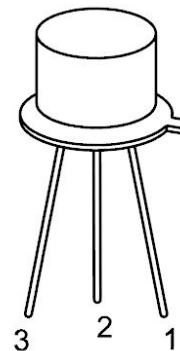
Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 100mA, f = 10MHz$	30	-	MHz
Collector-Base Capacitance	C_{cbo}	$V_{CB} = 20V, I_E = 0, f = 1MHz$	-	50	pF
Small-Signal Current Gain	h_{fe}	$V_{CE} = 1.5V, I_C = 200mA, f = 1MHz$	40	-	-

Note 1. Pulse Duration : 300 μ s, Duty Cycle $\leq$ 2%.



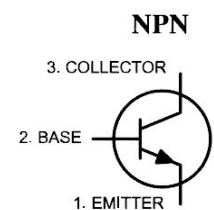
Dim.	Min.	Max.
A	8.5	9.39
B	7.74	8.5
C	6.09	6.6
D	0.4	0.53
E	-	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.7	-
L	42°	48°

Dimensions : Millimetres



Pin

1. Emitter
2. Base
3. Collector



Part Number Table

Description	Part Number
Transistor, Bipolar, Metal, NPN, TO-39	2N5682

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