



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_{CBO}	: 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°C/W

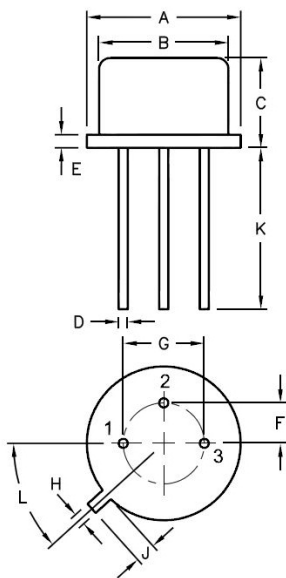
Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

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 : $300\mu\text{s}$, Duty Cycle $\leq 2\%$.

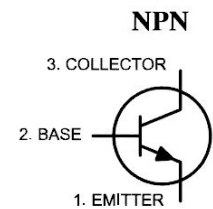
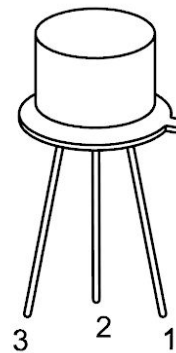
Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 100mA, f = 10MHz$	30	-	MHz
Collector-Base Capacitance	C_{cbo}	$V_{CB} = 20V, I_E = 0, f = 1MHz$	-	50	pF
Small-Signal Current Gain	h_{fe}	$V_{CE} = 1.5V, I_C = 200mA, f = 1MHz$	40	-	-

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

Important Notice : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.