

Transistor

PNP, TO-19



Pin Configuration

1. Emitter
2. Base
3. Collector

Features:

- PNP Silicon Planar Switching Transistor
- Fast switching devices exhibiting short turn-off and low saturation voltage characteristics
- Switching And Linear Application DC to VHF Amplifier Applications

Absolute Maximum Ratings:

Parameter	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	60	V
Collector-Base Voltage	V_{CBO}		
Emitter-Base Voltage	V_{EBO}		
Collector Current Continuous	I_C	600	mA
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate above 25°C	P_D	600 3.43	mW mW/ $^\circ\text{C}$
Power Dissipation at $T_c = 25^\circ\text{C}$ Derate above 25°C		3 17.2	W mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-65 to +200	$^\circ\text{C}$

Transistor

PNP, TO-19



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

Parameter	Symbol	Test Condition	Value		Unit
			Min.	Max.	
Collector-Emitter Voltage	V_{CEO}^*	$I_C = 10\text{mA}, I_B = 0$	60	-	V
Collector-Base Voltage	V_{CBO}	$I_C = 10\mu\text{A}, I_E = 0$		-	
Emitter-Base Voltage	V_{EBO}	$I_E = 10\mu\text{A}, I_C = 0$	5	-	
Collector-Cut off Current	I_{CBO} I_{CEX}	$V_{CB} = 50\text{V}, I_E = 0$ $T_A = 150^\circ\text{C } V_{CB} = 50\text{V}, I_E = 0$ $V_{CE} = 30\text{V}, V_{BE} = 0.5\text{V}$	-	10	nA
				10	μA
				50	nA
Base Current	I_B	$V_{CE} = 30\text{V}, V_{BE} = 0.5\text{V}$	-	50	nA
Collector Emitter Saturation Voltage	$V_{CE(sat)}^*$	$I_C = 150\text{mA}, I_B = 15\text{mA}$	-	0.4	V
Base Emitter Saturation Voltage	$V_{BE(sat)}^*$	$I_C = 150\text{mA}, I_B = 15\text{mA}$ $I_C = 500\text{mA}, I_B = 50\text{mA}$	-	1.3 2.6	
DC Current Gain	h_{FE}	$I_C = 0.1\text{mA}, V_{CE} = 10\text{V}$	>75	-	-
		$I_C = 1\text{mA}, V_{CE} = 10\text{V}$	>100		
		$I_C = 10\text{mA}, V_{CE} = 10\text{V}$	>100		
		$I_C = 150\text{mA}, V_{CE} = 10\text{V}^*$	100 - 300		
		$I_C = 500\text{mA}, V_{CE} = 10\text{V}^*$	>50		

Dynamic Characteristics

Transition Frequency	f_t^{**}	$I_C = 50\text{mA}, V_{CE} = 20\text{V}, f = 100\text{MHz}$	200	-	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 100\text{kHz}$	-	8	pF
Input Capacitance	C_{ib}	$V_{BE} = 2\text{V}, I_C = 0, f = 100\text{kHz}$	-	30	

Switching Time

Delay Time	t_d	$I_C = 150\text{mA}, I_{B1} = 15\text{mA}$	-	10	ns
Rise Time	t_r	$V_{CC} = 30\text{V}$	-	40	
Turn-on Time	t_{on}	-	-	45	
Storage time	t_s	$I_C = 150\text{mA}, I_{B1} = I_{B2} = 15\text{mA}$	-	80	
Fall Time	t_f	$V_{CC} = 6\text{V}$	-	30	
Turn-off Time	t_{off}	-	-	100	

Pulse Test: Pulse Width = 300 μs , Duty Cycle = 2%.

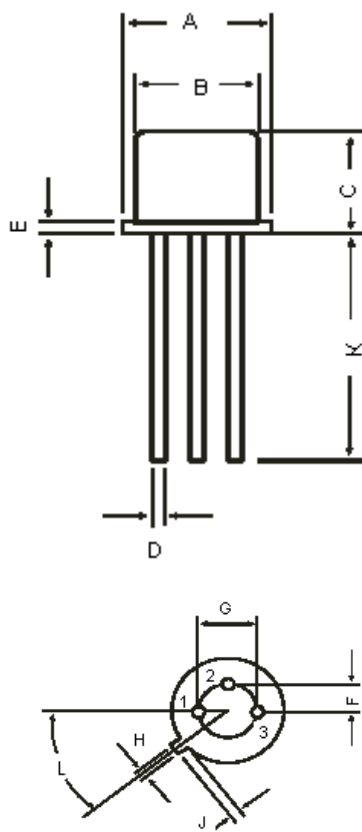
** f_t is defined as the frequency at which h_{fe} extrapolates to unity.

Transistor

PNP, TO-19



TO-39 Metal Can Package



Dimensions	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 Configuration

1. Emitter
2. Base
3. Collector

Part Number Table

Description	Part Number
Transistor, PNP, TO-39	2N2905A

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.