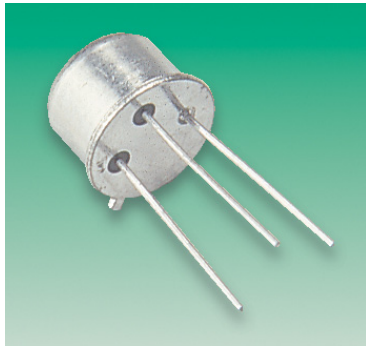


2N2905A

General Purpose Transistor



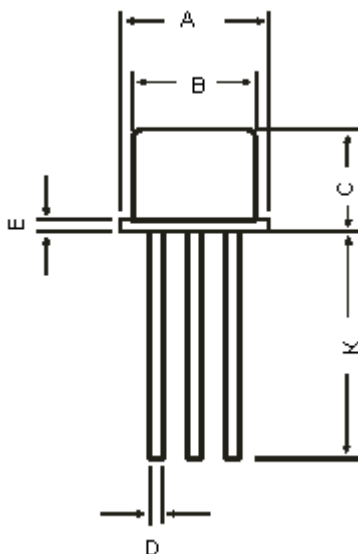
High Speed Switching



Features:

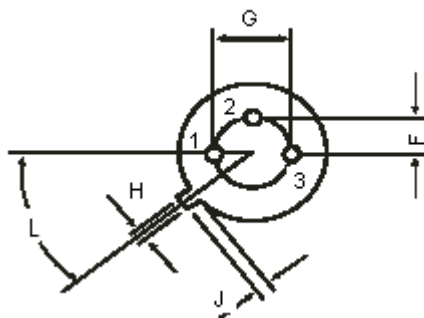
- PNP Silicon Planar Switching Transistor.
- Fast switching devices exhibiting short turn-off and low saturation voltage characteristics.
- Switching And Linear Application DC to VHF Amplifier Applications.

TO-39 Metal Can Package



Dimensions	Minimum	Maximum
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	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	12.70	-
L	42°	48°

Dimensions : Millimetres



Pin Configuration

1. Emitter
2. Base
3. Collector

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Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	60	V
Collector-Base Voltage	V_{CBO}		
Emitter-Base Voltage	V_{EBO}	5.0	
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		3.0 17.2	W mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-65 to +200	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Value		Unit
			Minimum	Maximum	
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}	$I_E = 10\mu\text{A}, I_C = 0$	5.0	-	
Collector-Cut off Current	I_{CBO}	$V_{CB} = 50\text{V}, I_E = 0$ $T_A = 150^\circ\text{C}$	-	10	nA
	I_{CEX}	$V_{CB} = 50\text{V}, I_E = 0$		10	μA
		$V_{CE} = 30\text{V}, V_{BE} = 0.5\text{V}$		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}	$I_C = 0.1\text{mA}, V_{CE} = 10\text{V}$ $I_C = 1\text{mA}, V_{CE} = 10\text{V}$ $I_C = 10\text{mA}, V_{CE} = 10\text{V}$ $I_C = 150\text{mA}, V_{CE} = 10\text{V}^*$ $I_C = 500\text{mA}, V_{CE} = 10\text{V}^*$	>75 >100 >100 100 - 300 >50	-	-



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Electrical Characteristics (Ta = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Minimum	Maximum	Unit
Dynamic Characteristics					
Transition Frequency	f _{t**}	I _C = 50mA, V _{CE} = 20V, f = 100MHz	200	-	MHz
Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 100kHz	-	8.0	pF
Input Capacitance	C _{ib}	V _{BE} = 2V, I _C = 0, f = 100kHz	-	30	
Switching Time					
Delay Time	t _d	I _C = 150mA, I _{B1} = 15mA	-	10	ns
Rise Time	t _r	V _{CC} = 30V	-	40	
Turn-on Time	t _{on}	-	-	45	
Storage time	t _s	I _C = 150mA, I _{B1} = I _{B2} = 15mA	-	80	
Fall Time	t _f	V _{CC} = 6V	-	30	
Turn-off Time	t _{off}	-	-	100	

Pulse Test: Pulse Width = 300 μ s, Duty Cycle = 2%

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

Specifications

V_{CEO} maximum (V)	I_C maximum (A)	$V_{CE(sat)}$ maximum (V) at $I_C = 150\text{mA}$	t_{off} maximum (ns) at $I_C = 150\text{mA}$	h_{FE} minimum at $I_C = 150\text{mA}$	P_{tot} at 25°C (mW)	Package and Pin Out	Part Number
60	0.6	0.4	100	100	600	TO-39	2N2905A



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General Purpose Transistor



Notes:

International Sales Offices:



AUSTRALIA – Farnell InOne

Tel No: ++ 61 2 9645 8888
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