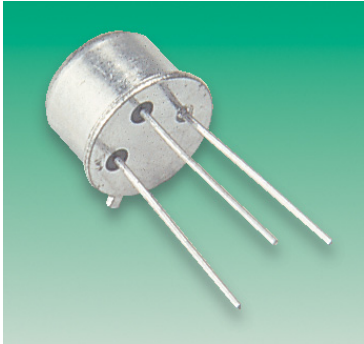


# 2N2905A

## General Purpose Transistor



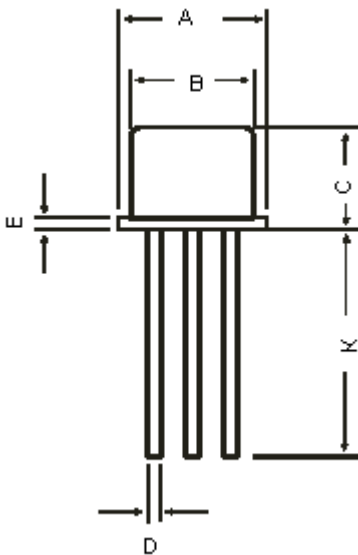
### High Speed Switching



### Features:

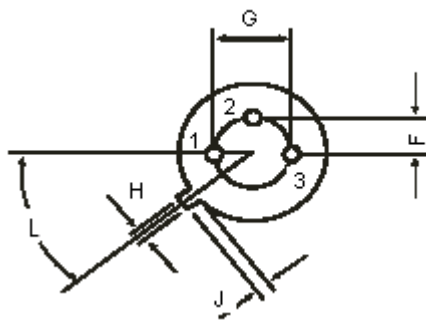
- PNP Silicon Planar Switching Transistor.
- Fast switching devices exhibiting short turn-off and low saturation voltage characteristics.
- Switching And Linear Application DC to VHF Amplifier Applications.

### 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



# 2N2905A

## General Purpose Transistor



### 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 $25^\circ\text{C}$	$P_D$	600	mW
Power Dissipation at $T_c = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$		3.43	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
	$I_{CEX}$	$V_{CB} = 50\text{V}, I_E = 0$ $V_{CE} = 30\text{V}, V_{BE} = 0.5\text{V}$	-	10 50	$\mu\text{A}$ 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	-	-

# 2N2905A

## General Purpose Transistor



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

Parameter	Symbol	Test Condition	Minimum	Maximum	Unit
<b>Dynamic Characteristics</b>					
Transition Frequency	$f_{t^{**}}$	$I_C = 50\text{mA}, V_{CE} = 20\text{V}, f = 100\text{MHz}$	200	-	MHz
Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = 100\text{kHz}$	-	8.0	pF
Input Capacitance	$C_{ib}$	$V_{BE} = 2\text{V}, I_C = 0, f = 100\text{kHz}$	-	30	
<b>Switching Time</b>					
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 $\mu$ s, Duty Cycle = 2%

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

### Specifications

$V_{CE0}$ 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

# 2N2905A

## General Purpose Transistor

### Notes:

### International Sales Offices:



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