

PNP 2N2905 – 2N2905A

SILICON PLANAR EPITAXIAL TRANSISTORS

The 2N2905 and 2N2905A are PNP transistors mounted in TO-39 metal case .
They are intended for high speed switching and general purpose applications.

Compliance to RoHS

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CEO}	Collector-Emitter Voltage	2N2905A	-60	V
		2N2905	-40	
V_{CBO}	Collector-Base Voltage	2N2905A	-60	V
		2N2905	-60	
V_{EBO}	Emitter-Base Voltage	2N2905A	-5	V
		2N2905	-5	
I_C	Collector Current	2N2905A	-600	mA
		2N2905		
P_D	Total Power Dissipation	@ $T_{amb} = 25^\circ$	0.6	Watts
P_D	Total Power Dissipation	@ $T_{case} = 25^\circ$	3	
T_J	Junction Temperature	2N2905A	200	$^\circ\text{C}$
		2N2905		
T_{Stg}	Storage Temperature range	2N2905A	-65 to +200	$^\circ\text{C}$
		2N2905		

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJ-a}	Thermal Resistance, Junction to ambient in free air	2N2905A	58.3	$^\circ\text{C/W}$
		2N2905		
R_{thJ-c}	Thermal Resistance, Junction to case	2N2905A	292	$^\circ\text{C/W}$
		2N2905		

ELECTRICAL CHARACTERISTICS

PNP 2N2905 – 2N2905A

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
I_{CBO}	Collector Cutoff Current	$V_{CB}=-50\text{ V}, I_E=0$	2N2905A	-	-	-10	nA
			2N2905	-	-	-20	
		$V_{CB}=-50\text{ V}, I_E=0, T_j=150^\circ\text{C}$	2N2905A	-	-	-10	μA
			2N2905	-	-	-20	
I_{CEX}	Collector Cutoff Current	$V_{CE}=-30\text{ V}, V_{BE}=0.5\text{ V}$	2N2905A	-	-	-50	nA
V_{CEO}	Collector Emitter Breakdown Voltage	$I_C=-10\text{ mA}, I_B=0$	2N2905A	-60	-	-	V
			2N2905	-40	-	-	
V_{CBO}	Collector Base Breakdown Voltage	$I_C=-10\text{ }\mu\text{A}, I_E=0$	2N2905A	-60	-	-	V
			2N2905	-60	-	-	
V_{EBO}	Emitter Base Breakdown Voltage	$I_E=-10\text{ }\mu\text{A}, I_C=0$	2N2905A	-5	-	-	V
			2N2905	-5	-	-	
h_{FE}	DC Current Gain	$I_C=-0.1\text{ mA}, V_{CE}=-10\text{ V}$	2N2905A	75	-	-	-
			2N2905	35	-	-	
		$I_C=-1\text{ mA}, V_{CE}=-10\text{ V}$	2N2905A	100	-	-	
			2N2905	50	-	-	
		$I_C=-10\text{ mA}, V_{CE}=-10\text{ V}$	2N2905A	100	-	-	
			2N2905	75	-	-	
		$I_C=-150\text{ mA}, V_{CE}=-10\text{ V (1)}$	2N2905A	100	-	300	
			2N2905	40	-	120	
		$I_C=-500\text{ mA}, V_{CE}=-10\text{ V (1)}$	2N2905A	50	-	-	
			2N2905	30	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (1)	$I_C=-150\text{ mA}, I_B=-15\text{ mA}$	2N2905A	-	-	-0.4	V
			2N2905	-	-	-0.4	
		$I_C=-500\text{ mA}, I_B=-50\text{ mA}$	2N2905A	-	-	-1.6	
			2N2905	-	-	-1.6	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (1)	$I_C=-150\text{ mA}, I_B=-15\text{ mA}$	2N2905A	-	-	-1.3	V
			2N2905	-	-	-1.3	
		$I_C=-500\text{ mA}, I_B=-50\text{ mA}$	2N2905A	-	-	-2.6	
			2N2905	-	-	-2.6	

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
f_T	Transition frequency	$I_C=-50\text{ mA}, V_{CE}=-20\text{ V}$ $f = 100\text{ MHz}$	2N2905A 2N2905	200	-	-	MHz

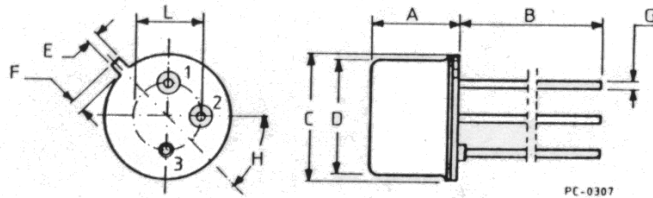
Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
t_d	Delay time	$I_C=-150\text{ mA}, I_B=-15\text{ mA}$ $-V_{CC}=-30\text{ V}$	-	-	10	ns	
t_r	Rise time		-	-	40		
C_{CBO}	Collector-Base capacitance	$I_E=I_C=0, V_{CB}=-10\text{ V}$ $f = 100\text{ kHz}$	2N2905A	-	-	8	pF
			2N2905	-	-	8	
C_{EBO}	Emitter-Base capacitance	$I_C=I_E=0, V_{EB}=-2\text{ V}$ $f = 100\text{ kHz}$	2N2905A	-	-	30	pF
			2N2905	-	-	30	

(1) Pulse conditions : $t_p < 300\text{ }\mu\text{s}, \delta = 2\%$

PNP 2N2905 – 2N2905A

MECHANICAL DATA CASE TO-39

DIMENSIONS	
	mm
A	6,25
B	13,59
C	9,24
D	8,24
E	0,78
F	1,05
G	0,42
H	45°
L	4,1



Pin 1 :	Emitter
Pin 2 :	Base
Case :	Collector

Information furnished is believed to be accurate and reliable. However, CS assumes no responsibility for the consequences of use of such information nor for errors that could appear.

Data are subject to change without notice.