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°	**2N2905A**	0.6	Watts
			2N2905		
P_D	Total Power Dissipation	@ T_{case}= 25°	**2N2905A**	3	
			2N2905		
T_J	Junction Temperature		**2N2905A**	200	°C
			2N2905		
T_{Stg}	Storage Temperature range		**2N2905A**	-65 to +200	°C
			2N2905		

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJ-a}	Thermal Resistance, Junction to ambient in free air	**2N2905A**	58.3	°C/W
		2N2905		
R_{thJ-c}	Thermal Resistance, Junction to case	**2N2905A**	292	°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 V, I_E=0	**2N2905A**	-	-	-10	nA
			2N2905	-	-	-20	
		V_{CB}=-50 V, I_E=0, T_j=150°C	**2N2905A**	-	-	-10	µA
			2N2905	-	-	-20	
I_{CEX}	Collector Cutoff Current	V_{CE}=-30 V, V_{BE}=0.5V	**2N2905A**	-	-	-50	nA
			2N2905				
V_{CEO}	Collector Emitter Breakdown Voltage	I_C=-10 mA, I_B=0	**2N2905A**	-60	-	-	V
			2N2905	-40	-	-	
V_{CBO}	Collector Base Breakdown Voltage	I_C=-10 µA, I_E=0	**2N2905A**	-60	-	-	V
			2N2905				
V_{EBO}	Emitter Base Breakdown Voltage	I_E=-10 µA, I_C=0	**2N2905A**	-5	-	-	V
			2N2905				
h_{FE}	DC Current Gain	I_C=-0.1 mA, V_{CE}=-10 V	**2N2905A**	75	-	-	-
			2N2905	35	-	-	
		I_C=-1 mA, V_{CE}=-10 V	**2N2905A**	100	-	-	
			2N2905	50	-	-	
		I_C=-10 mA, V_{CE}=-10 V	**2N2905A**	100	-	-	
			2N2905	75	-	-	
		I_C=-150 mA, V_{CE}=-10 V (1)	**2N2905A**	100	-	300	
			2N2905	40	-	120	
		I_C=-500 mA, V_{CE}=-10 V (1)	**2N2905A**	50	-	-	
			2N2905	30	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (1)	I_C=-150 mA, I_B=-15 mA	**2N2905A**	-	-	-0.4	V
			2N2905				
		I_C=-500 mA, I_B=-50 mA	**2N2905A**	-	-	-1.6	
			2N2905				
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (1)	I_C=-150 mA, I_B=-15 mA	**2N2905A**	-	-	-1.3	
			2N2905				
		I_C=-500 mA, I_B=-50 mA	**2N2905A**	-	-	-2.6	
			2N2905				

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

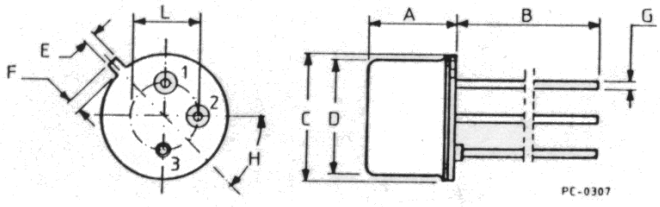
Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
t_d	Delay time	I_C=-150 mA ,I_B =-15 mA -V_{CC}=-30 V		-	-	10	ns
t_r	Rise time			-	-	40	
C_{CBO}	Collector-Base capacitance	I_E= I_e = 0 ,V_{CB}=-10 V f = 100kHz	**2N2905A** **2N2905**	-	-	8	pF
C_{EBO}	Emitter-Base capacitance	I_C= I_c = 0 ,V_{EB}=-2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

(1) Pulse conditions : tp < 300 µs, δ =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