PNP 2N2907 – 2N2907A
NPN 2N2222 – 2N2222A

SILICON PLANAR EPITAXIAL TRANSISTORS

The 2N2907 and 2N2907aA are PNP transistors mounted in TO-18 metal package with the collector connected to the case .
They are primarily intended for high speed switching.
NPN complements are 2N2222 and 2N2222A .
Compliance to RoHS

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CEO}	Collector-Emitter Voltage		**2N2907A**	-60	V
			2N2907	-40	
V_{CBO}	Collector-Base Voltage		**2N2907A**	-60	V
			2N2907	-60	
V_{EBO}	Emitter-Base Voltage		**2N2907A**	-5	V
			2N2907	-5	
I_C	Collector Current		**2N2907A**	-600	mA
			2N2907		
P_D	Total Power Dissipation	@ T_{amb} = 25°	**2N2907A**	0.4	Watts
			2N2907		
P_D	Total Power Dissipation	@ T_{case}= 25°	**2N2907A**	1.8	Watts
			2N2907		
T_J	Junction Temperature		**2N2907A**	200	°C
			2N2907		
T_{Stg}	Storage Temperature range		**2N2907A**	-65 to +200	°C
			2N2907		

(1) Applicable up to I_C = 500mA

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJ-a}	Thermal Resistance, Junction to ambient in free air	**2N2907A**	350	K/W
		2N2907		
R_{thJ-c}	Thermal Resistance, Junction to case	**2N2907A**	146	K/W
		2N2907		

PNP 2N2907 – 2N2907A
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ELECTRICAL CHARACTERISTICS

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=0V	**2N2907A**	-	-	-10	nA
		V_{CB}=-50 V, I_E=0V	**2N2907**	-	-	-20	
I_{CBO}	Collector Cutoff Current	V_{CB}=-50 V, I_E=0V, T_j=150°C	**2N2907A**	-	-	-10	µA
		V_{CB}=-50 V, I_E=0V, T_j=150°C	**2N2907**	-	-	-20	
I_{CEX}	Collector Cutoff Current	V_{CE}=-30 V, V_{BE}=0.5V	**2N2907A**	-	-	-50	nA
			2N2907				
V_{CEO}	Collector Emitter Breakdown Voltage	I_C=-10 mA, I_B=0	**2N2907A**	-60	-	-	V
			2N2907	-40	-	-	
V_{CBO}	Collector Base Breakdown Voltage	I_C=-10 µA, I_E=0	**2N2907A**	-60	-	-	V
			2N2907	-60	-	-	
V_{EBO}	Emitter Base Breakdown Voltage	I_E=-10 µA, I_C=0	**2N2907A**	-5	-	-	V
			2N2907	-5	-	-	
h_{FE}	DC Current Gain	I_C=-0.1 mA, V_{CE}=-10 V	**2N2907A**	75	-	-	-
			2N2907				
		I_C=-1 mA, V_{CE}=-10 V	**2N2907A**	100	-	-	
			2N2907				
		I_C=-10 mA, V_{CE}=-10 V	**2N2907A**	100	-	-	
			2N2907				
		I_C=-150 mA, V_{CE}=-10 V	**2N2907A**	100	-	300	
			2N2907				
		I_C=-500 mA, V_{CE}=-10 V (1)	**2N2907A**	50	-	-	
			2N2907	30	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (1)	I_C=-150 mA, I_B=-15 mA	**2N2907A**	-	-	-0.4	V
			2N2907	-	-	-0.4	
		I_C=-500 mA, I_B=-50 mA	**2N2907A**	-	-	-1.6	
			2N2907	-	-	-1.6	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (1)	I_C=-150 mA, I_B=-15 mA	**2N2907A**	-	-	-1.3	
			2N2907	-	-	-1.3	
		I_C=-500 mA, I_B=-50 mA	**2N2907A**	-	-	-2.6	
			2N2907	-	-	-2.6	

Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
f_T	Transition frequency	I_C=-50 mA, V_{CE}=-20 V f= 100MHz	**2N2907A**	200	-	-	MHz
			2N2907	200	-	-	
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	**2N2907A**	-	-	10	ns
t_r	Rise time		**2N2907**	-	-	40	
C_C	Collector capacitance	I_E= I_e = 0 ,V_{CB}=-10 V f = 100kHz	**2N2907A**	-	-	8	pF
			2N2907				
C_E	Emitter capacitance	I_C= I_c = 0 ,V_{EB}=-0.5 V f = 100kHz	**2N2907A**	-	-	30	pF
			2N2907				

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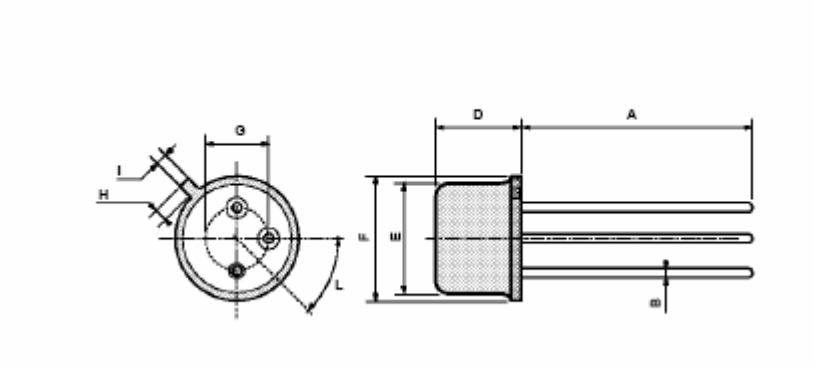
(1) Pulse conditions : tp < 300 μs, δ =2%

MECHANICAL DATA CASE TO-18

DIMENSIONS		
	mm	inches
A	12,7	0,5
B	0,49	0,019
D	5,3	0,208
E	4,9	0,193
F	5,8	0,228
G	2,54	0,1
H	1,2	0,047
I	1,16	0,045
L	45°	45°



Pin 1 :	Emitter
Pin 2 :	Base
Pin 3 :	Collector