PNP 2N2907 – 2N2907A

GENERAL PURPOSE AMPLIFIERS TRANSISTORS

The 2N2907 and 2N2907A 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		

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

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
I_{CBO}	Collector Cutoff Current	V_{CB}=-50 V, I_E=0	2N2907A	-	-	-10	nA
			2N2907	-	-	-20	
I_{CBO}	Collector Cutoff Current	V_{CB}=-50 V, I_E=0 T_j=150°C	2N2907A	-	-	-10	µA
			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	2N2907A	50	-	-	
			2N2907	30	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	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 (*)	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	

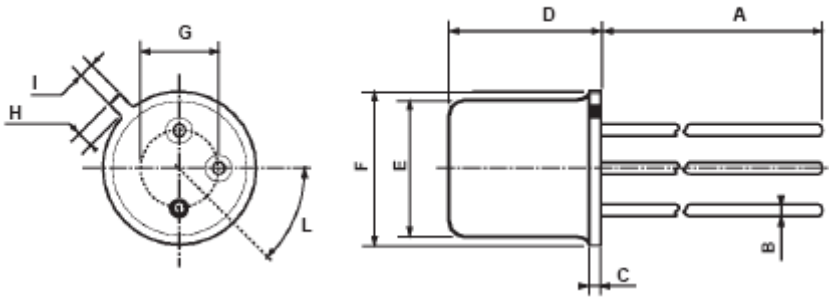
PNP 2N2907 – 2N2907A

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
f_T	Transition frequency	I_C=-50 mA V_{CE}=-20 V f= 100MHz	2N2907A	200	-	-	MHz
			2N2907	200	-	-	
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				

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

MECHANICAL DATA CASE TO-18

DIMENSIONS (mm)		
	min	max
A	12.7	-
B	-	0.49
C	0.9	-
D	-	5.3
E	-	4.9
F	-	5.8
G	2.54	-
H	-	1.2
I	-	1.16
L	45°	-



Pin 1 :	emitter
Pin 2 :	base
Pin 3 :	Collector
Case :	Collector

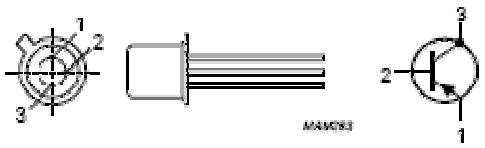


Fig.1 Simplified outline (TO-18) and symbol.

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