

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	@ $T_{amb} = 25^\circ$	0.4	Watts
		2N2907A		
P_D	Total Power Dissipation	@ $T_{case} = 25^\circ$	1.8	Watts
		2N2907A		
T_J	Junction Temperature	2N2907A	200	$^\circ C$
		2N2907		
T_{Stg}	Storage Temperature range	2N2907A	-65 to +200	$^\circ C$
		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	$V_{CB}=-50\text{ V}, I_E=0$	2N2907A	-	-	-10	nA
			2N2907	-	-	-20	
I_{CBO}	Collector Cutoff Current	$V_{CB}=-50\text{ V}, I_E=0$ $T_j=150^\circ\text{C}$	2N2907A	-	-	-10	μA
			2N2907	-	-	-20	
I_{CEX}	Collector Cutoff Current	$V_{CE}=-30\text{ V}$ $V_{BE}=0.5\text{ V}$	2N2907A	-	-	-50	nA
			2N2907	-	-	-50	
V_{CEO}	Collector Emitter Breakdown Voltage	$I_C=-10\text{ mA}$ $I_B=0$	2N2907A	-60	-	-	V
			2N2907	-40	-	-	
V_{CBO}	Collector Base Breakdown Voltage	$I_C=-10\text{ }\mu\text{A}$ $I_E=0$	2N2907A	-60	-	-	V
			2N2907	-60	-	-	
V_{EBO}	Emitter Base Breakdown Voltage	$I_E=-10\text{ }\mu\text{A}$ $I_C=0$	2N2907A	-5	-	-	V
			2N2907	-5	-	-	
h_{FE}	DC Current Gain (*)	$I_C=-0.1\text{ mA}$ $V_{CE}=-10\text{ V}$	2N2907A	75	-	-	-
			2N2907				
		$I_C=-1\text{ mA}$ $V_{CE}=-10\text{ V}$	2N2907A	100	-	-	
			2N2907				
		$I_C=-10\text{ mA}$ $V_{CE}=-10\text{ V}$	2N2907A	100	-	-	
			2N2907				
$I_C=-150\text{ mA}$ $V_{CE}=-10\text{ V}$	2N2907A	100	-	300			
	2N2907						
$I_C=-500\text{ mA}$ $V_{CE}=-10\text{ V}$	2N2907A	50	-	-			
	2N2907				30	-	-
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C=-150\text{ mA}$ $I_B=-15\text{ mA}$	2N2907A	-	-	-0.4	V
			2N2907	-	-	-0.4	
		$I_C=-500\text{ mA}$ $I_B=-50\text{ mA}$	2N2907A	-	-	-1.6	
			2N2907	-	-	-1.6	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (*)	$I_C=-150\text{ mA}$ $I_B=-15\text{ mA}$	2N2907A	-	-	-1.3	V
			2N2907	-	-	-1.3	
		$I_C=-500\text{ mA}$ $I_B=-50\text{ mA}$	2N2907A	-	-	-2.6	
			2N2907	-	-	-2.6	

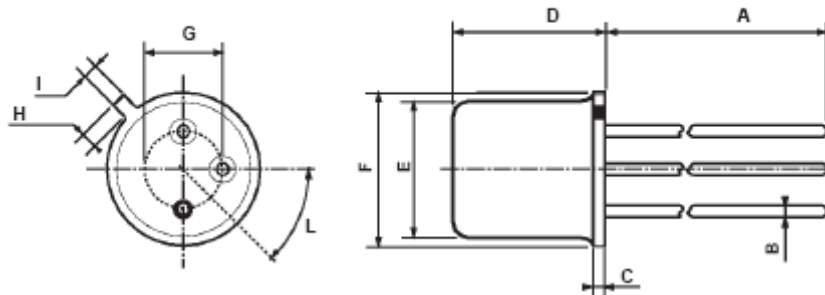
PNP 2N2907 – 2N2907A

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit	
f_T	Transition frequency	$I_C = -50 \text{ mA}$ $V_{CE} = -20 \text{ V}$ $f = 100 \text{ MHz}$	2N2907A	200	-	-	MHz
			2N2907	200	-	-	
t_d	Delay time	$I_C = -150 \text{ mA}$ $I_B = -15 \text{ mA}$ $-V_{CC} = -30 \text{ V}$	2N2907A	-	-	10	ns
t_r	Rise time		2N2907	-	-	40	
C_C	Collector capacitance	$I_E = I_e = 0$ $V_{CB} = -10 \text{ V}$ $f = 100 \text{ kHz}$	2N2907A	-	-	8	pF
			2N2907	-	-	8	
C_E	Emitter capacitance	$I_C = I_c = 0$ $V_{EB} = -0.5 \text{ V}$ $f = 100 \text{ kHz}$	2N2907A	-	-	30	pF
			2N2907	-	-	30	

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

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

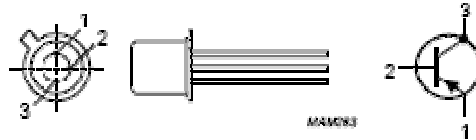


Fig.1 Simplified outline (TO-18) and symbol.

Revised August 2012

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