



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 2N2907	-600	mA	
P _D	Total Power Dissipation	@ T _{amb} = 25°	2N2907A 2N2907	0.4	Watts
		@ T _{case} = 25°	2N2907A 2N2907		
T _J	Junction Temperature	2N2907A 2N2907	200	°C	
T _{Stg}	Storage Temperature range	2N2907A 2N2907	-65 to +200	°C	

(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
NPN 2N2222 – 2N2222A**
ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
I_{CBO}	Collector Cutoff Current	$V_{CB}=-50\text{ V}, I_E=0\text{ V}$	2N2907A	-	-	-10	nA
		$V_{CB}=-50\text{ V}, I_E=0\text{ V}$	2N2907	-	-	-20	
I_{CBO}	Collector Cutoff Current	$V_{CB}=-50\text{ V}, I_E=0\text{ V}, T_j=150^\circ\text{C}$	2N2907A	-	-	-10	μA
		$V_{CB}=-50\text{ V}, I_E=0\text{ V}, T_j=150^\circ\text{C}$	2N2907	-	-	-20	
I_{CEX}	Collector Cutoff Current	$V_{CE}=-30\text{ V}, V_{BE}=0.5\text{ V}$	2N2907A	-	-	-50	nA
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	75	-	-	
		$I_C=-1\text{ mA}, V_{CE}=-10\text{ V}$	2N2907A	100	-	-	
			2N2907	100	-	-	
		$I_C=-10\text{ mA}, V_{CE}=-10\text{ V}$	2N2907A	100	-	-	
			2N2907	100	-	-	
$I_C=-150\text{ mA}, V_{CE}=-10\text{ V}$	2N2907A	100	-	300			
	2N2907	100	-	300			
$I_C=-500\text{ mA}, V_{CE}=-10\text{ V (1)}$	2N2907A	50	-	-			
	2N2907	30	-	-			
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (1)	$I_C=-150\text{ mA}, I_B=-15\text{ mA}$	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 (1)	$I_C=-150\text{ mA}, I_B=-15\text{ mA}$	2N2907A	-	-	-1.3	V
			2N2907	-	-	-1.3	
		$I_C=-500\text{ mA}, I_B=-50\text{ mA}$	2N2907A	-	-	-2.6	
			2N2907	-	-	-2.6	

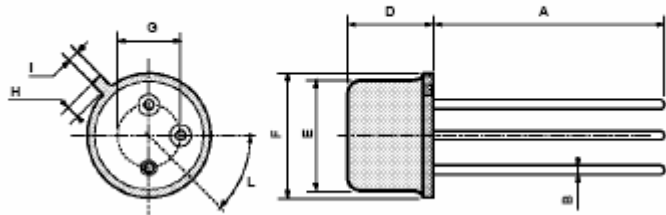
Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
f_T	Transition frequency	$I_C=-50\text{ mA}, V_{CE}=-20\text{ V}$ $f=100\text{ MHz}$	2N2907A	200	-	-	MHz
			2N2907	200	-	-	
Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
t_d	Delay time	$I_C=-150\text{ mA}, I_B=-15\text{ mA}$	2N2907A	-	-	10	ns
t_r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

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

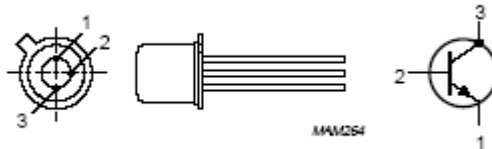
(1) Pulse conditions : $t_p < 300 \mu s$, $\delta = 2\%$

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



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.