



Micro Commercial Components

Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

# 2N2907 2N2907A

## Features

- High current (max.600mA)
- Low voltage (max.60V)
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)

## Maximum Ratings

Symbol	Rating	Rating	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage 2N2907 2N2907A	40 60	V
V <sub>CBO</sub>	Collector-Base Voltage	60	V
V <sub>EBO</sub>	Emitter-Base Voltage	5.0	V
I <sub>C</sub>	Collector Current (DC)	600	mA
I <sub>CM</sub>	Peak Collector Current	800	mA
I <sub>BM</sub>	Peak Base Current	200	mA
T <sub>J</sub>	Operating Junction Temperature	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

## Thermal Characteristics

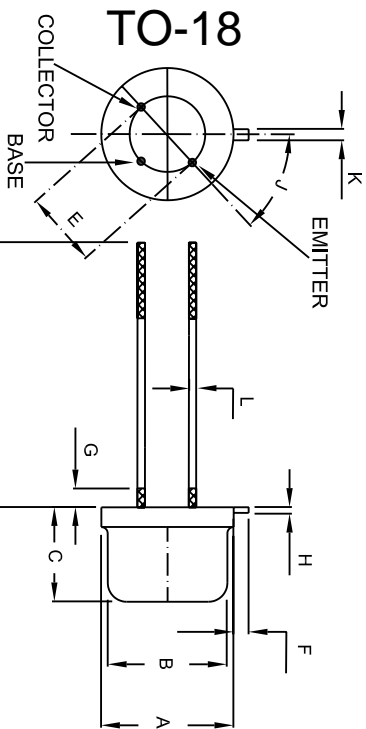
Symbol	Rating	Max	Unit
P <sub>tot</sub>	Total power Dissipation T <sub>A</sub> ≤ 25°C T <sub>C</sub> ≤ 25°C	400 1.2	mW W
R <sub>JC</sub>	Thermal Resistance, Junction to Case	146	K/W
R <sub>JA</sub>	Thermal Resistance, Junction to Ambient	350	K/W

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
--------	-----------	-----	-----	-------

### OFF CHARACTERISTICS

I <sub>CBO</sub>	Collector cut-off current (V <sub>CB</sub> =50Vdc, I <sub>E</sub> =0)	2N2907	---	20	nAdc
	(V <sub>CB</sub> =50Vdc, I <sub>E</sub> =0, T <sub>A</sub> =150°C)	2N2907A	---	10	uAdc
I <sub>EBO</sub>	Emitter Cut-off current (I <sub>C</sub> =0, V <sub>EB</sub> =5.0Vdc)	2N2907	---	50	nAdc
		2N2907A	---	50	nAdc
h <sub>FE</sub>	DC Current Gain (I <sub>C</sub> =0.1mAdc, V <sub>CE</sub> =10Vdc) (I <sub>C</sub> =1.0mAdc, V <sub>CE</sub> =10Vdc) (I <sub>C</sub> =10mAdc, V <sub>CE</sub> =10Vdc) (I <sub>C</sub> =150mAdc, V <sub>CE</sub> =10Vdc)* (I <sub>C</sub> =500mAdc, V <sub>CE</sub> =10Vdc)*	2N2907	35	300	
		2N2907	50		
		2N2907	75		
		2N2907	100		
		2N2907	30		
h <sub>FE</sub>	DC Current Gain (I <sub>C</sub> =0.1mAdc, V <sub>CE</sub> =10Vdc) (I <sub>C</sub> =1.0mAdc, V <sub>CE</sub> =10Vdc) (I <sub>C</sub> =10mAdc, V <sub>CE</sub> =10Vdc) (I <sub>C</sub> =150mAdc, V <sub>CE</sub> =10Vdc)* (I <sub>C</sub> =500mAdc, V <sub>CE</sub> =10Vdc)*	2N2907A	75	300	
		2N2907A	100		
		2N2907A	100		
		2N2907A	100		
		2N2907A	50		



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.209	.230	5.309	5.842	Φ
B	.178	.195	4.521	4.953	Φ
C	.170	.210	4.318	5.334	
D	.50	.75	12.7	19.05	
E	.100		2.54		ΦTYP
F	.028	.048	7.112	1.219	
G	-----	.050	-----	1.27	
H	.009	.031	0.229	0.787	
J	44°	46°	44°	46°	
K	.036	.046	0.914	1.168	
L	.016	.021	0.406	0.533	

Notes:1.High Temperature Solder Exemption Applied, see EU Directive Annex 7.

# 2N2907,2N2907A



Symbol	Parameter	Min	Max	Units
<b>ON CHARACTERISTICS*</b>				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage* ( $I_C=150\text{mA}$ , $I_B=15\text{mA}$ ) ( $I_C=500\text{mA}$ , $I_B=50\text{mA}$ )	---	400	mVdc
		---	1.6	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage * ( $I_C=150\text{mA}$ , $I_B=15\text{mA}$ ) ( $I_C=500\text{mA}$ , $I_B=50\text{mA}$ )	---	1.3	Vdc
		---	2.6	Vdc
<b>SMALL-SIGNAL CHARACTERISTICS</b>				
$C_{OB}$	Output Capacitance ( $V_{CB}=10\text{Vdc}$ , $I_E=I_C=0$ , $f=1.0\text{MHz}$ )	---	8.0	pF
$f_T$	Transistor Frequency* ( $I_C=50\text{mA}$ , $V_{CE}=20\text{Vdc}$ , $f=100\text{MHz}$ )	200	---	MHz
<b>SWITCHING CHARACTERISTICS</b>				
$T_d$	Delay Time	---	15	ns
$t_r$	Rise Time	---	35	ns
$t_s$	Storage Time	---	250	ns
$t_f$	Fall Time	---	50	ns

\* Pulse Test:  $t_p \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$



Micro Commercial Components

## Ordering Information

Device	Packing
(Part Number)-BP	Bulk;100pcs/Box

**\*\*\*IMPORTANT NOTICE\*\*\***

*Micro Commercial Components Corp.* reserves the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. *Micro Commercial Components Corp.* does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold *Micro Commercial Components Corp.* and all the companies whose products are represented on our website, harmless against all damages.

**\*\*\*APPLICATIONS DISCLAIMER\*\*\***

Products offer by *Micro Commercial Components Corp.* are not intended for use in Medical, Aerospace or Military Applications.