



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
$V_{CEO}$	Collector-Emitter Voltage 2N2907 2N2907A	40 60	V
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	5.0	V
$I_C$	Collector Current (DC)	600	mA
$I_{CM}$	Peak Collector Current	800	mA
$I_{BM}$	Peak Base Current	200	mA
$T_J$	Operating Junction Temperature	-55 to +150	°C
$T_{STG}$	Storage Temperature	-55 to +150	°C

## Thermal Characteristics

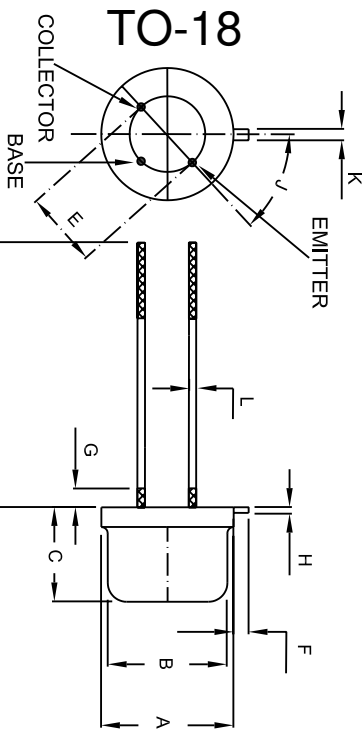
Symbol	Rating	Max	Unit
$P_{tot}$	Total power Dissipation $T_A \leq 25^\circ\text{C}$ $T_C \leq 25^\circ\text{C}$	400 1.2	mW W
$R_{JC}$	Thermal Resistance, Junction to Case	146	K/W
$R_{JA}$	Thermal Resistance, Junction to Ambient	350	K/W

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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### OFF CHARACTERISTICS

$I_{CBO}$	Collector cut-off current ( $V_{CB}=50\text{Vdc}$ , $I_E=0$ )	2N2907	---	20	nAdc
	( $V_{CB}=50\text{Vdc}$ , $I_E=0$ , $T_A=150^\circ\text{C}$ )	2N2907A	---	10	uAdc
$I_{EBO}$	Emitter Cut-off current ( $I_C=0$ , $V_{EB}=5.0\text{Vdc}$ )		---	50	nAdc
	DC Current Gain ( $I_C=0.1\text{mAdc}$ , $V_{CE}=10\text{Vdc}$ ) ( $I_C=1.0\text{mAdc}$ , $V_{CE}=10\text{Vdc}$ ) ( $I_C=10\text{mAdc}$ , $V_{CE}=10\text{Vdc}$ ) ( $I_C=150\text{mAdc}$ , $V_{CE}=10\text{Vdc}$ )* ( $I_C=500\text{mAdc}$ , $V_{CE}=10\text{Vdc}$ )*	2N2907	35 50 75 100 30	300	
$h_{FE}$	DC Current Gain ( $I_C=0.1\text{mAdc}$ , $V_{CE}=10\text{Vdc}$ ) ( $I_C=1.0\text{mAdc}$ , $V_{CE}=10\text{Vdc}$ ) ( $I_C=10\text{mAdc}$ , $V_{CE}=10\text{Vdc}$ ) ( $I_C=150\text{mAdc}$ , $V_{CE}=10\text{Vdc}$ )* ( $I_C=500\text{mAdc}$ , $V_{CE}=10\text{Vdc}$ )*	2N2907A	75 100 100 100 50	300	



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.

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# 2N2907,2N2907A



Symbol	Parameter	Min	Max	Units
<b>ON CHARACTERISTICS*</b>				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage* ( $I_C=150mA$ , $I_B=15mA$ ) ( $I_C=500mA$ , $I_B=50mA$ )	---	400	mVdc
		---	1.6	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage * ( $I_C=150mA$ , $I_B=15mA$ ) ( $I_C=500mA$ , $I_B=50mA$ )	---	1.3	Vdc
		---	2.6	Vdc
<b>SMALL-SIGNAL CHARACTERISTICS</b>				
$C_{OB}$	Output Capacitance ( $V_{CB}=10Vdc$ , $I_E=I_C=0$ , $f=1.0MHz$ )	---	8.0	pF
$f_T$	Transistor Frequency* ( $I_C=50mA$ , $V_{CE}=20Vdc$ , $f=100MHz$ )	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:  $t_p \leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$



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### Ordering Information :

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

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