



Micro Commercial Components

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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

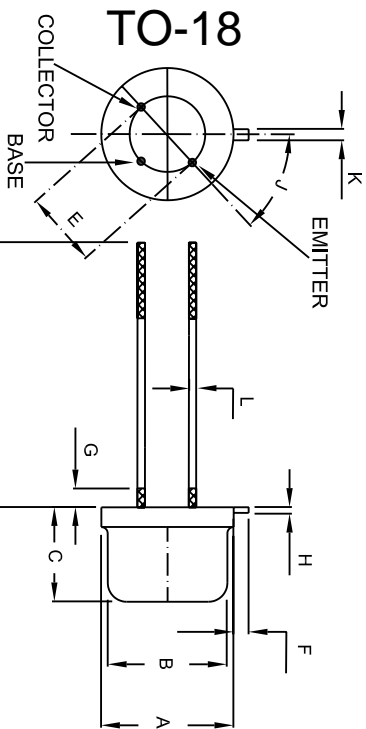
Symbol	Rating	Max	Unit
P_{tot}	Total power Dissipation $T_A \leq 25^\circ C$ $T_C \leq 25^\circ C$	400 1.2	mW W
R_{JC}	Thermal Resistance, Junction to Case	146	K/W
R_{JA}	Thermal Resistance, Junction to Ambient	350	K/W

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

I_{CBO}	Collector cut-off current ($V_{CB}=50Vdc, I_E=0$)	2N2907	---	20	nAdc
	($V_{CB}=50Vdc, I_E=0, T_A=150^\circ C$)	2N2907A	---	10	uAdc
I_{EBO}	Emitter Cut-off current ($I_C=0, V_{EB}=5.0Vdc$)		---	50	nAdc
	h_{FE}	DC Current Gain ($I_C=0.1mAdc, V_{CE}=10Vdc$)	2N2907	35	
($I_C=1.0mAdc, V_{CE}=10Vdc$)			50		
($I_C=10mAdc, V_{CE}=10Vdc$)			75	300	
($I_C=150mAdc, V_{CE}=10Vdc$)*			100		
($I_C=500mAdc, V_{CE}=10Vdc$)*			30		
h_{FE}	DC Current Gain ($I_C=0.1mAdc, V_{CE}=10Vdc$)	2N2907A	75		
	($I_C=1.0mAdc, V_{CE}=10Vdc$)		100		
	($I_C=10mAdc, V_{CE}=10Vdc$)		100	300	
	($I_C=150mAdc, V_{CE}=10Vdc$)*		100		
	($I_C=500mAdc, V_{CE}=10Vdc$)*		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
ON CHARACTERISTICS*				
$V_{CE(sat)}$	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
SMALL-SIGNAL CHARACTERISTICS				
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
SWITCHING CHARACTERISTICS				
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 $\leq 2.0\%$



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Ordering Information

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

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