



Micro Commercial Components



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 $T_A \leq 25^\circ\text{C}$ $T_C \leq 25^\circ\text{C}$	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

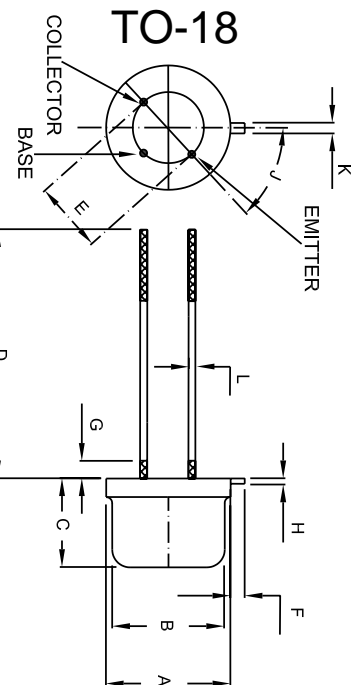
Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

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

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

PNP Switching Transistors



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	

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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 1.6	mVdc 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 2.6	Vdc 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	$I_{CON}=150\text{mA}$, $I_{BON}=15\text{mA}$, $I_{B(off)}=15\text{mA}$	---	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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