



Micro Commercial Components



Micro Commercial Components  
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# MMBT2907AT

## PNP General Purpose Amplifier

### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Capable of 150mWatts of Power Dissipation
- Operating and Storage Junction Temperatures -55°C to 150°C
- Collector Current: -0.6A
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking:2F
- Halogen free available upon request by adding suffix "-HF"

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
<b>OFF CHARACTERISTICS</b>				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ( $I_C=-10\text{mA}$ , $I_B=0$ )	-60		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=-10\mu\text{A}$ , $I_E=0$ )	-60		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=-10\mu\text{A}$ , $I_C=0$ )	-5.0		Vdc
$I_{CBO}$	Collector Cut-off Current ( $V_{CB}=-50\text{Vdc}$ , $I_E=0$ )		-10	nA
$I_{EBO}$	Emitter Cut-off Current ( $V_{EB}=-4\text{Vdc}$ , $I_C=0$ )		-10	nA

### ON CHARACTERISTICS

$h_{FE}$	DC Current Gain* ( $I_C=-0.1\text{mA}$ , $V_{CE}=-10\text{Vdc}$ ) ( $I_C=-1.0\text{mA}$ , $V_{CE}=-10\text{Vdc}$ ) ( $I_C=-10\text{mA}$ , $V_{CE}=-10\text{Vdc}$ ) ( $I_C=-150\text{mA}$ , $V_{CE}=-10\text{Vdc}$ ) ( $I_C=-500\text{mA}$ , $V_{CE}=-10\text{Vdc}$ )	75 100 100 100 50	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=-150\text{mA}$ , $I_B=-15\text{mA}$ ) ( $I_C=-500\text{mA}$ , $I_B=-50\text{mA}$ )		-0.4 -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 -2.6	Vdc

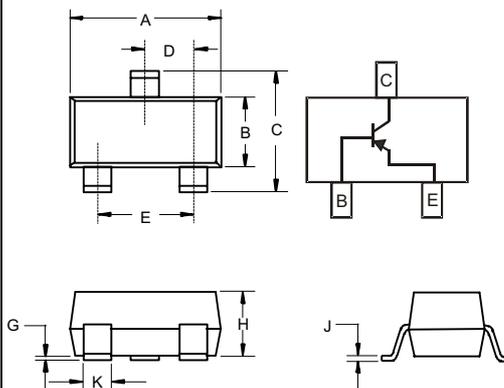
### SMALL-SIGNAL CHARACTERISTICS

$f_T$	Current Gain-Bandwidth Product ( $I_C=-2\text{mA}$ , $V_{CE}=-12\text{Vdc}$ , $f=30\text{MHz}$ )	140(Typ.)		MHz
$C_{cbo}$	Output Capacitance ( $V_{CB}=-12\text{Vdc}$ , $I_E=0$ , $f=100\text{kHz}$ )		5.0	pF

### SWITCHING CHARACTERISTICS

$T_{on}$	Turn-on Time	$(V_{CC}=-30\text{Vdc}$ , $I_C=-150\text{mA}$ , $I_{B1}=-15\text{mA}$ )	45	ns
$t_d$	Delay Time		10	ns
$t_r$	Rise Time		40	ns
$t_{off}$	Turn-off Time	$(V_{CC}=-6\text{Vdc}$ , $I_C=-150\text{mA}$ , $I_{B1}=I_{B2}=-15\text{mA}$ )	100	ns
$t_s$	Storage Time		80	ns
$t_f$	Fall Time		30	ns

### SOT-523



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.059	.067	1.50	1.70	
B	.030	.033	0.75	0.85	
C	.057	.069	1.45	1.75	
D	.020 Nominal		0.50 Nominal		
E	.035	.043	0.90	1.10	
G	.000	.004	.000	.100	
H	.028	.031	.70	0.80	
J	.004	.008	.100	.200	
K	.010	.014	.25	.35	

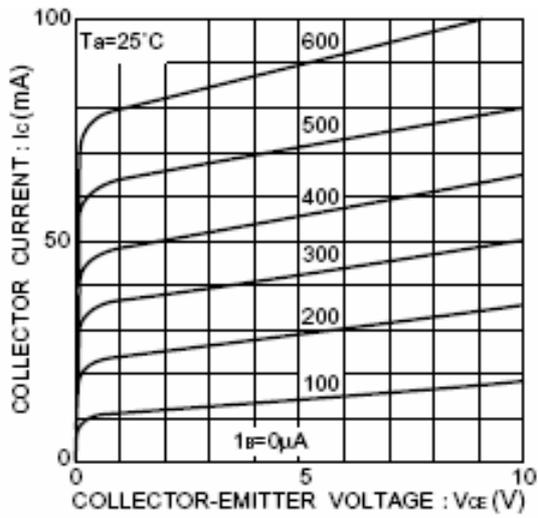


Fig.1 Grounded emitter output characteristics

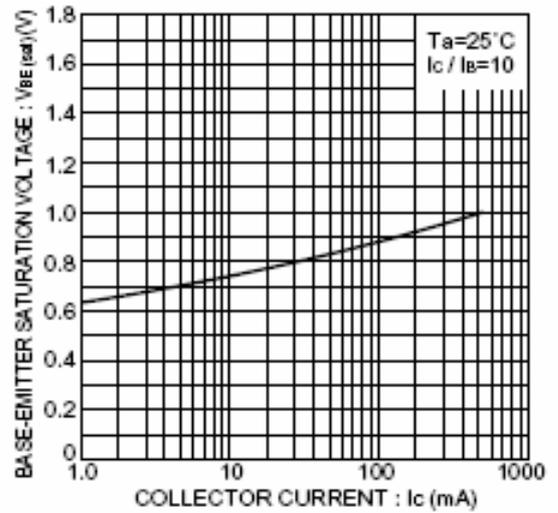


Fig.2 Base-emitter saturation voltage vs. collector current

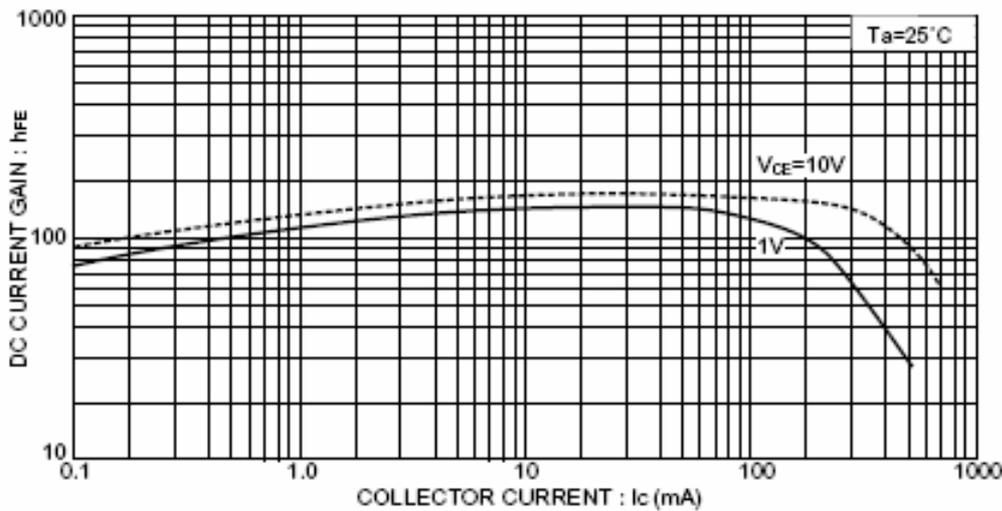


Fig.3 DC current gain vs. collector current (I)



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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel; 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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