



Micro Commercial Components



Micro Commercial Components
130 W Cochran St, Unit B
Simi Valley, CA 93065
Tel:818-701-4933

MMBT2907A

PNP General Purpose Amplifier

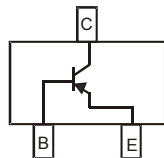
Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

Maximum Ratings @ 25°C Unless Otherwise Specified

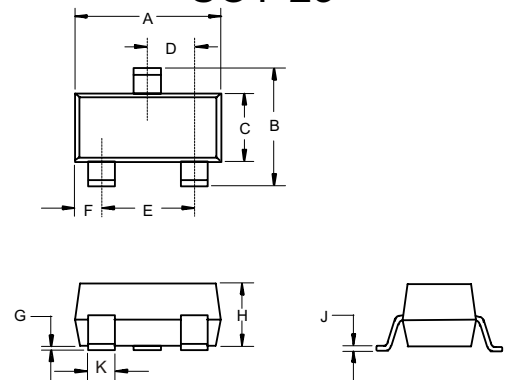
Symbol	Parameter	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{CBO}	Collector-Base Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-0.6	A
I_{CM}	Peak Collector Current	-0.8	A
P_D	Power Dissipation	350	mW
$R_{\theta JA}$	Power Dissipation	357	°C/W
T_J	Thermal Resistance, Junction to Ambient	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Pin Configuration (Top View)



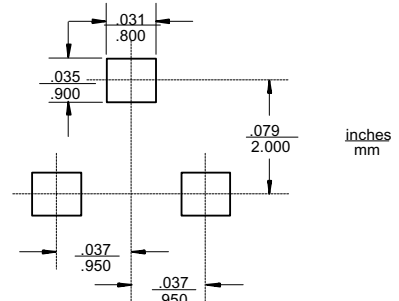
Marking : 2F

SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
$V_{(BR)CEO}$	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_{BL}	Base Cutoff Current ($V_{CE} = -30\text{Vdc}$, $V_{BE} = -0.5\text{Vdc}$)		-50	nAdc
I_{CEX}	Collector Cutoff Current ($V_{CE} = -30\text{Vdc}$, $V_{BE} = -0.5\text{Vdc}$)		-50	nAdc
I_{CBO}	Collector Cutoff Current ($V_{CB} = -50\text{Vdc}$, $I_E = 0$) ($V_{CB} = -50\text{Vdc}$, $I_E = 0$, $T_A = 150^\circ\text{C}$)		-0.02 -10.0	μAdc

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 ($I_C = -50\text{mA}$, $V_{CE} = -20\text{Vdc}$, $f = 100\text{MHz}$)	200		MHz
C_{cbo}	Output Capacitance ($V_{CB} = -10\text{Vdc}$, $I_E = 0$, $f = 1.0\text{MHz}$)		8.0	pF
C_{ibo}	Input Capacitance ($V_{EB} = -2.0\text{Vdc}$, $I_C = 0$, $f = 1.0\text{MHz}$)		30.0	pF

SWITCHING CHARACTERISTICS

t_{on}	Turn-on Time	(V _{CC} = -30Vdc, I _C = -150mA, I _{B1} = -15mA)	45	ns
t_d	Delay Time		10	ns
t_r	Rise Time		40	ns
t_{off}	Turn-off Time	(V _{CC} = -6.0Vdc, I _C = -150mA, I _{B1} = I _{B2} = -15mA)	100	ns
t_s	Storage Time		80	ns
t_f	Fall Time		30	ns

*Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

Typical Characteristics

Fig. 1 - Static Characteristics

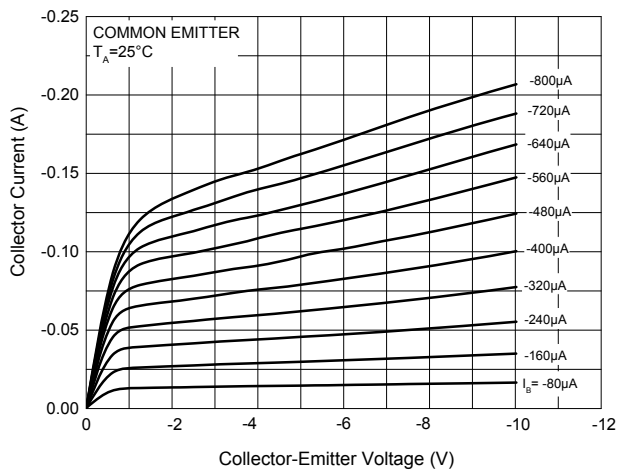


Fig. 2 - DC Current Gain Characteristics

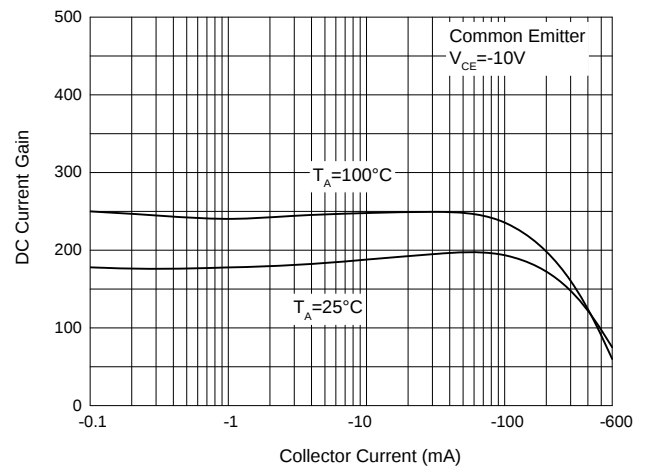


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

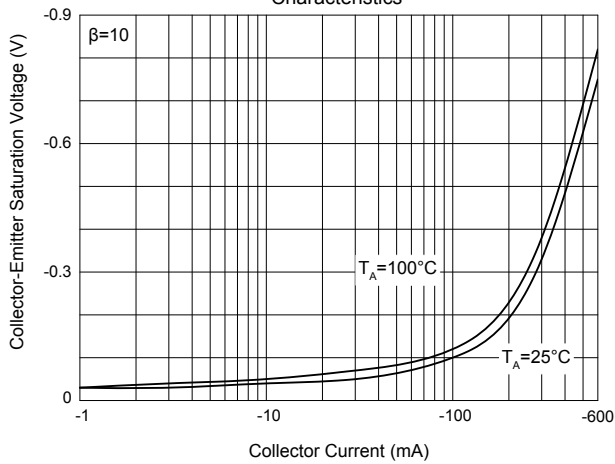


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

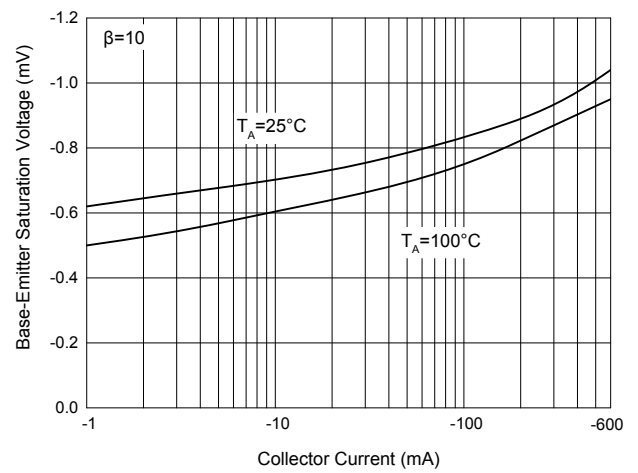


Fig. 5 - Base-Emitter Voltage Characteristics

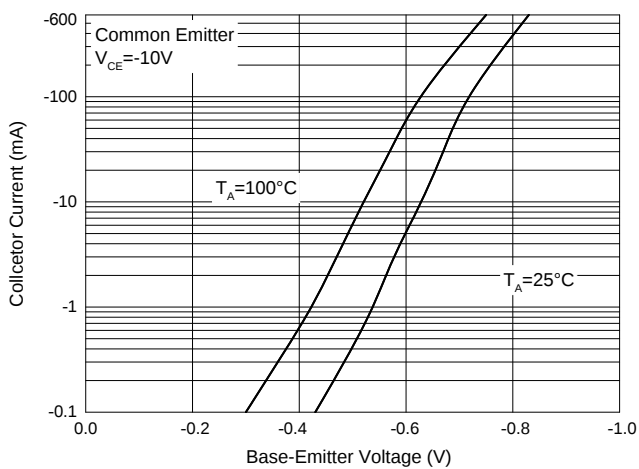
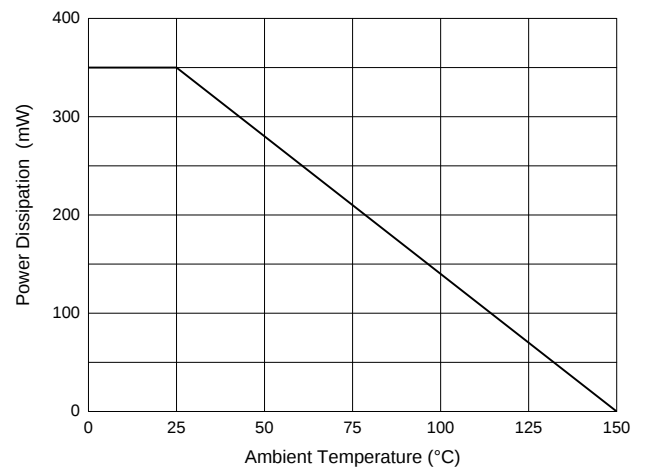


Fig. 6 - Power Derating Curve



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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