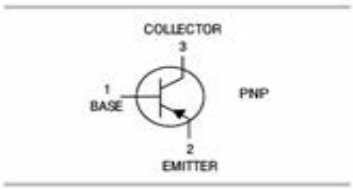
MMBT3906L

DFN1006-3 Bipolar Transistor(PNP)

FEATURES

- Epitaxial planar die construction.
- Complementary NPN type available (MMBT3904L).
- Collector Current Capability I_{CM} =-200mA.
- Low Voltage(Max:-40V).



DFN1006-3

APPLICATIONS

- Ideal for medium power amplification and switching.

ORDERING INFORMATION

Type No.	Marking	Package Code
MMBT3906L□	2A	DFN1006-3

□: none is for Lead Free package;
"G" is for Halogen Free package.

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	Value	UNIT
V_{CBO}	collector-base voltage	open emitter	-40	V
V_{CEO}	collector-emitter voltage	open base	-40	V
V_{EBO}	emitter-base voltage	open collector	-6	V
I_C	collector current (DC)		-100	mA
I_{CM}	peak collector current		-200	mA
I_{BM}	peak base current		-100	mA
P_{tot}	total power dissipation	Tamb≤25°C	150	mW
T_j , T_{stg}	storage temperature		-55 to +150	°C

Note Transistor mounted on an FR4 printed-circuit board.

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = -30 V	-	-50	nA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} =- 6 V	-	-50	nA
h_{FE}	DC current gain	V_{CE} = -1V; I_C= -0.1mA I_C = -1mA I_C = -10mA I_C = -50mA I_C = -100mA	 60 80 100 60 30	 - - 300 - -	
V_{CEsat}	collector-emitter saturation voltage	I_C = -10mA; I_B = -1mA	-	-200	mV
		I_C = -50mA; I_B = -5mA	-	-300	mV
V_{BEsat}	base-emitter saturation voltage	I_C = -10mA; I_B = -1mA	-	-850	mV
		I_C = -50mA; I_B = -5mA	-	-950	mV
C_c	collector capacitance	I_E = I_e= 0; V_{CB} = -5 V; f = 1 MHz	-	4.5	pF
C_e	emitter capacitance	I_C = I_c= 0; V_{EB} = -500 mV; f = 1 MHz	-	10	pF
f_T	transition frequency	I_C = -10mA; V_{CE} = -20 V; f = 100MHz	250	-	MHz
NF	noise figure	I_C = -100μA; V_{CE} = -5V; R_S = 1 kΩ;f = 10Hz to15.7 kHz	-	4	dB
Switching times (between 10% and 90% levels);					
t_{on}	Turn-on time	I_{Con}= -10mA; I_{Bon} = -1mA; I_{Boff}= -1mA	-	65	ns
t_d	delay time		-	35	ns
t_r	rise time		-	35	ns
t_{off}	turn-off time		-	300	ns
t_s	storage time		-	225	ns
t_r	fall time		-	75	ns

Note Pulse test: tp≤300 ms; d≤0.02.

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

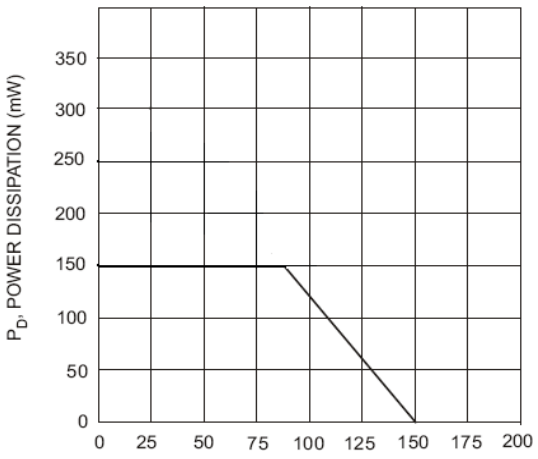


Fig. 1, Max Power Dissipation vs Ambient Temperature

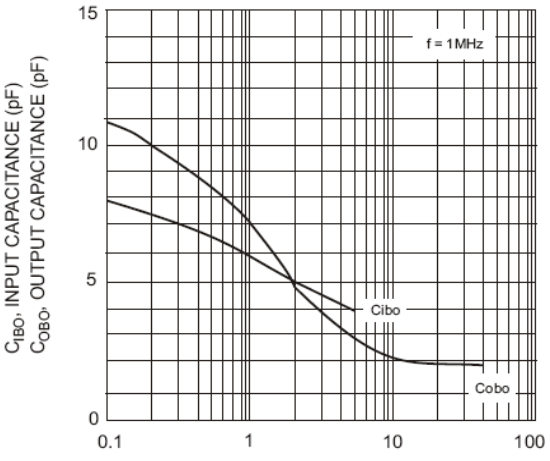
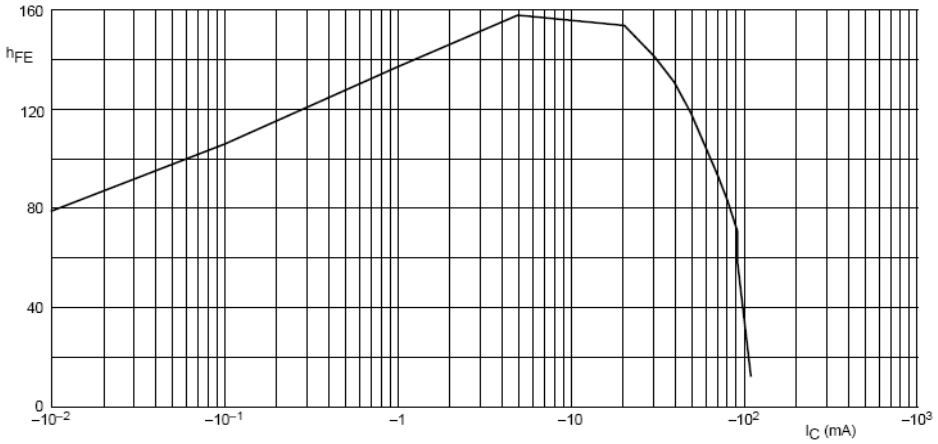


Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage



$V_{CE} = -1$ V.

Fig. 3, Typical DC Current Gain vs Collector Current

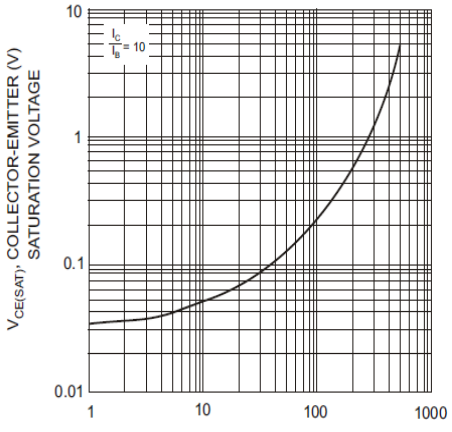


Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

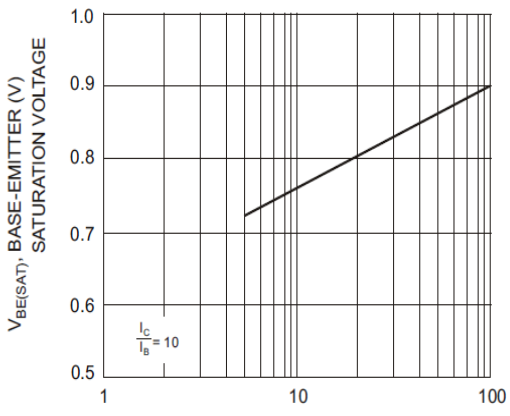


Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current

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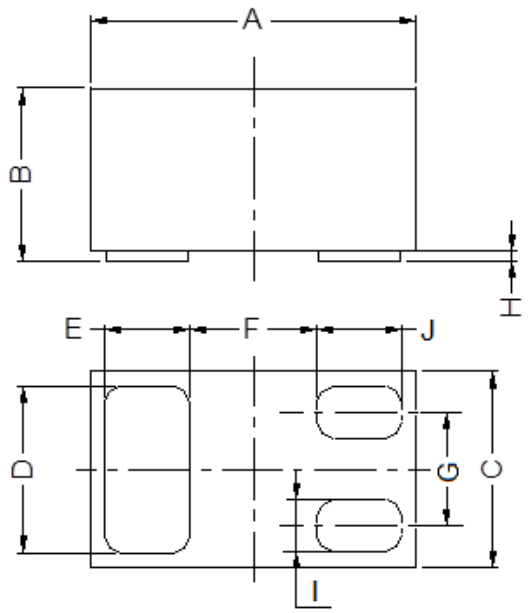
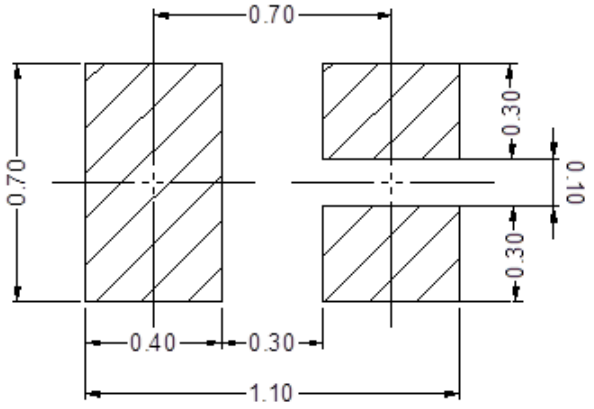
PACKAGE OUTLINE

Plastic surface mounted package DFN1006-3



DFN1006-3			
Dim	Min	Typ	Max
A	0.95	1.00	1.075
B	0.47	0.50	0.53
C	0.55	0.60	0.675
D	0.45	0.50	0.55
E/J	0.20	0.25	0.30
F	-	0.40	-
G	-	0.35	-
H	0	0.03	0.05
I	0.10	0.15	0.20
All Dimensions in mm			

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
MMBT3906L	DFN1006-3	10000/Tape&Reel