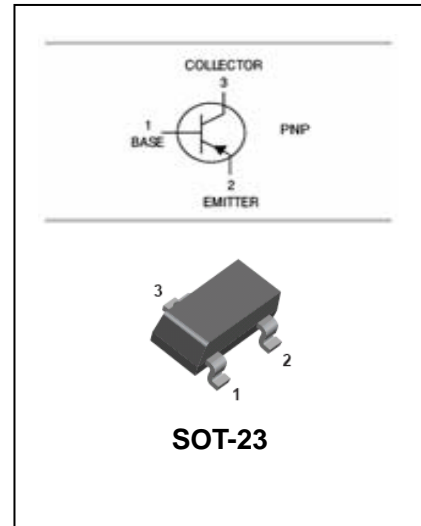


MMBT3906 TRANSISTOR (PNP)

FEATURES

- Epitaxial planar die construction.
- Complementary NPN type available (MMBT3904).
- Low Current (Max:-100mA).
- Low Voltage(Max:-40v).



APPLICATIONS

- Ideal for medium power amplification and switching

ORDERING INFORMATION

Type No.	Marking	Package Code
MMBT3906	2A	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	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	T _{amb} ≤ 25°C	-	250	mW
T _{stg}	storage temperature		-65	+150	°C
T _j	junction temperature		-	150	°C
T _{amb}	operating ambient temperature		-65	+150	°C

Note Transistor mounted on an FR4 printed-circuit board.

MMBT3906 TRANSISTOR (PNP)

ELECTRICAL CHARACTERISTICS @ Ta=25°C 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 to 15.7 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 _f	fall time		-	75	ns

Note Pulse test: t_p ≤ 300 ms; d ≤ 0.02.

MMBT3906 TRANSISTOR (PNP)

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

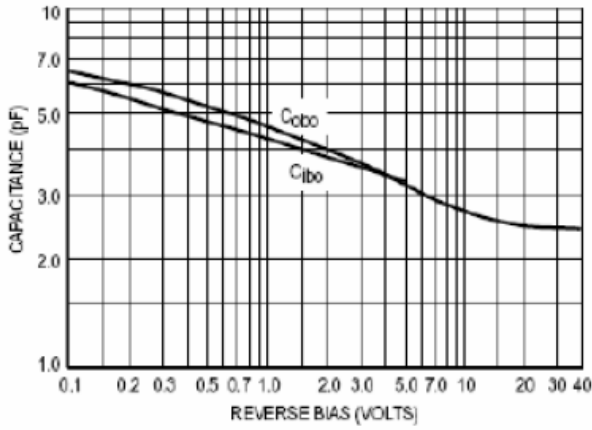


Figure 1 Capacitance

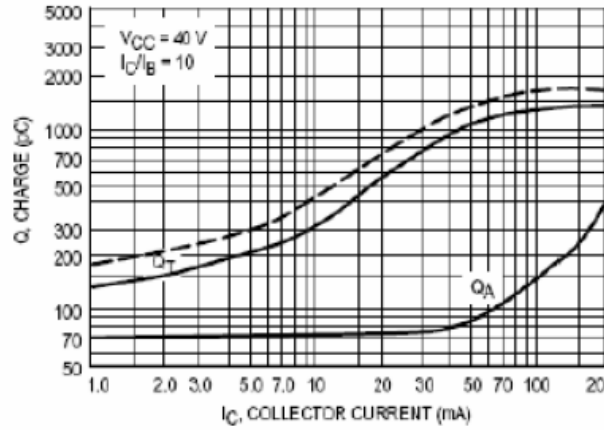


Figure 2 Charge Data

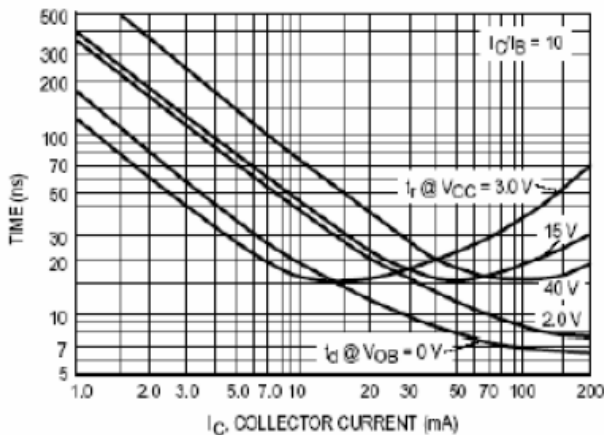


Figure 3 Turn-On Time

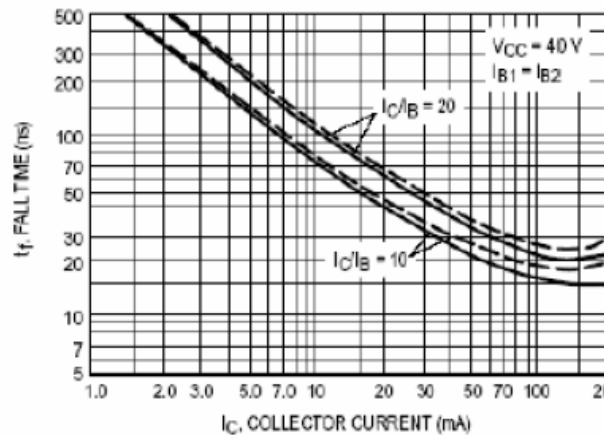


Figure 4 Fall Time

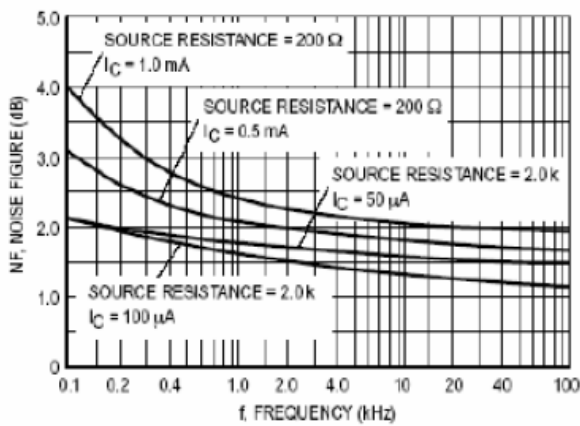


Figure 5

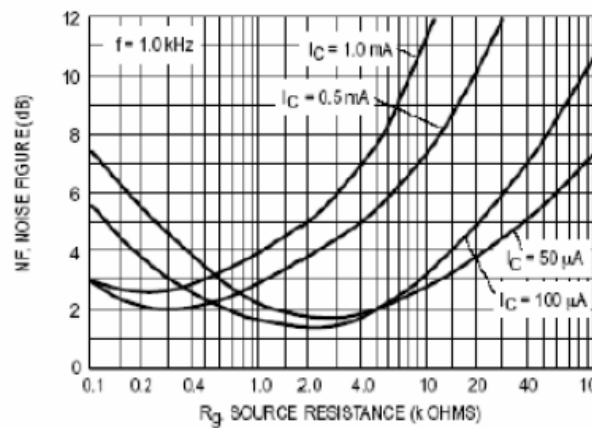


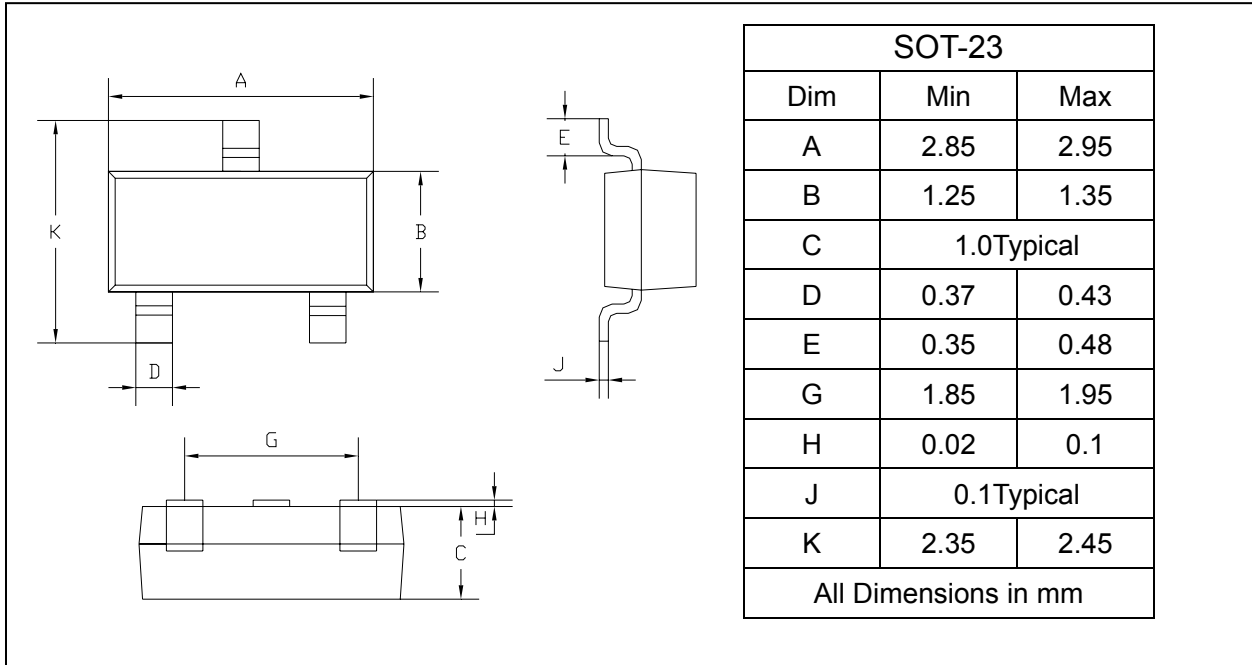
Figure 6

MMBT3906 TRANSISTOR (PNP)

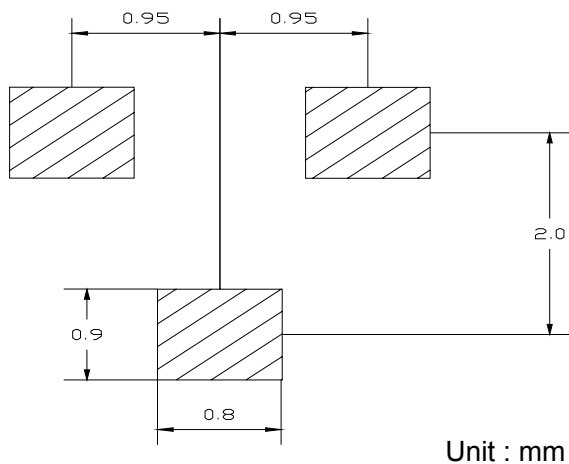
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
MMBT3906	SOT-23	3000/Tape&Reel