General Purpose Transistor

COMCHIP
SMD Diodes Specialist

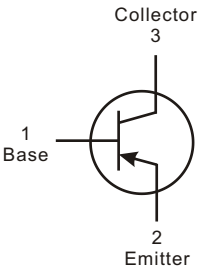
MMBT3906-G (PNP)

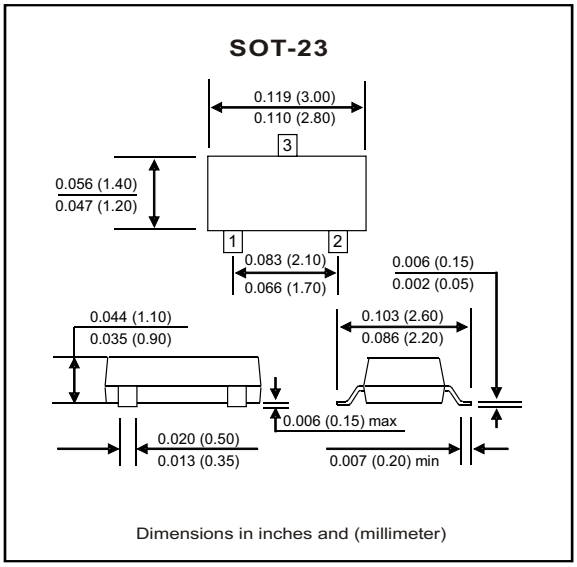
RoHS Device

Features

-Epitaxial planar die construction

-As complementary type, the NPN transistor MMBT3904-G is recommended





Maximum Ratings(at T_A=25°C unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Unit
Collector-Base voltage	V_{CBO}			-40	V
Collector-Emitter voltage	V_{CEO}			-40	V
Emitter-Base voltage	V_{EBO}			-5	V
Collector current-Continuous	I_C			-0.2	A
Collector dissipatioin	P_C			0.3	W
Storage tempe rature and junction tempe rature	T_{STG} , T_J	-55		+150	°C

Electrical Characteristics (at T_A=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Max	Unit
Collector-Base breakdown voltage	I_C =-100μA , I_E=0	$V_{(BR)CBO}$	-40		V
Collector-Emitter breakdown voltage	I_C =-1mA , I_B=0	$V_{(BR)CEO}$	-40		V
Emitter-Base breakdown voltage	I_E =-100μA , I_C=0	$V_{(BR)EBO}$	-5		V
Collector cut-off current	V_{CB}=-40V , I_E=0	I_{CBO}		-0.1	μA
Collector cut-off current	V_{CE}=-40V , I_B=0	I_{CEO}		-0.1	μA
Emitter cut-off current	V_{EB}=-5V , I_C=0	I_{EBO}		-0.1	μA
DC current gain	V_{CE}=-1V , I_C=-10mA	$h_{FE(1)}$	100	300	
	V_{CE}=-1V , I_C=-50mA	$h_{FE(2)}$	60		
Collector-Emitter saturation voltage	I_C=-50mA , I_B=-5mA	V_{CE}(sat)		-0.3	V
Base-Emitter saturation voltage	I_C=-50mA , I_B=-5mA	V_{BE}(sat)		-0.95	V
Transition frequency	V_{CE}=-20V , I_C=-10mA f=100MHz	f_T	250		Mhz
Delay time	V_{CC}=-3.0V , V_{BE}=-0.5V	td		35	nS
Rise time	I_C=-10mA , I_{B1}=-1.0mA	tr		35	nS
Storage time	V_{CC}=-3.0V_{dc} , I_C=-10mA	ts		225	nS
Fall time	I_{B1}=I_{B2}=-1.0mA	tf		75	nS

RATING AND CHARACTERISTIC CURVES (MMBT3906-G)

Fig.1 Capacitance

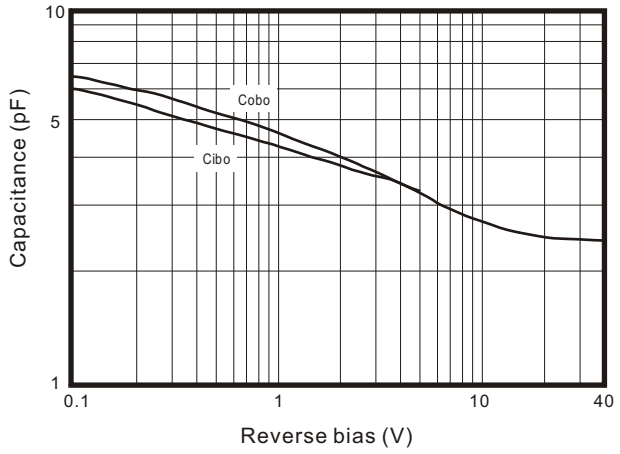


Fig. 2 - Charg data

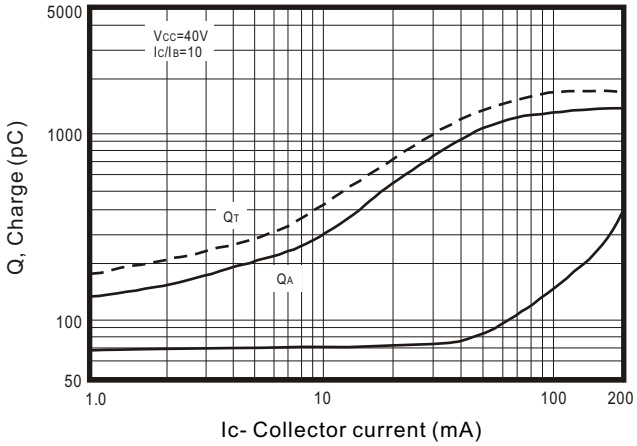


Fig. 3 - Turn-On Time

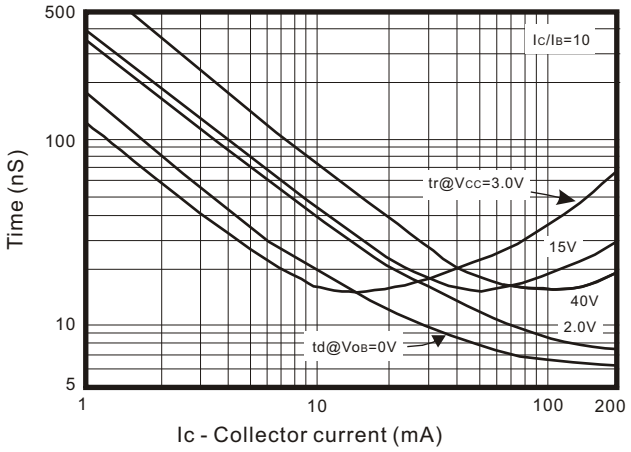


Fig. 4 - Fall time

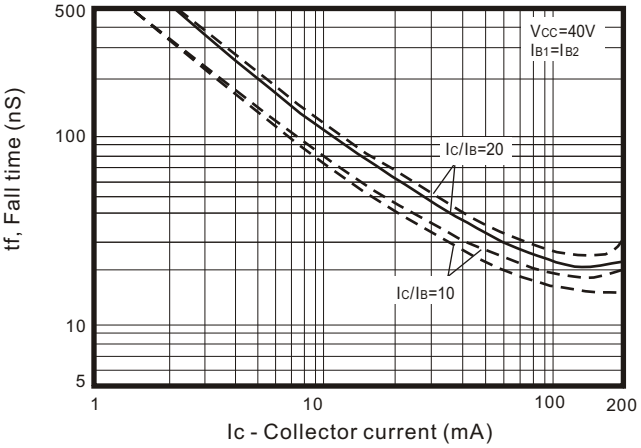


Figure 5

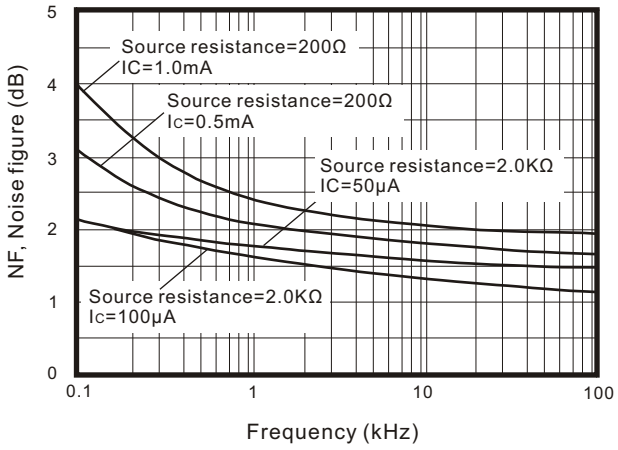
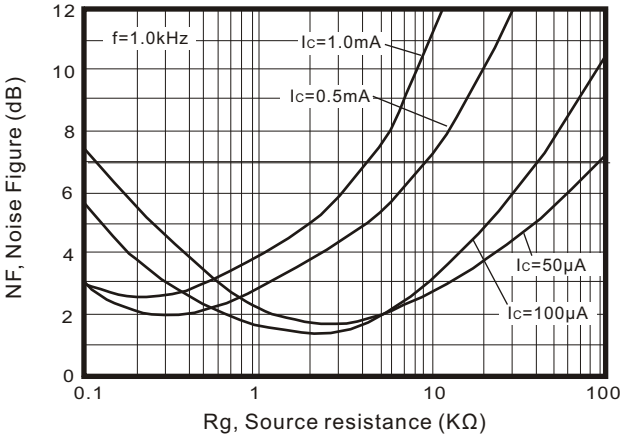


Figure 6



h Parameters (V_{CE}=-10V_{dc}, f=1.0kHz, T_A=25°C)

Fig.7 Current gain

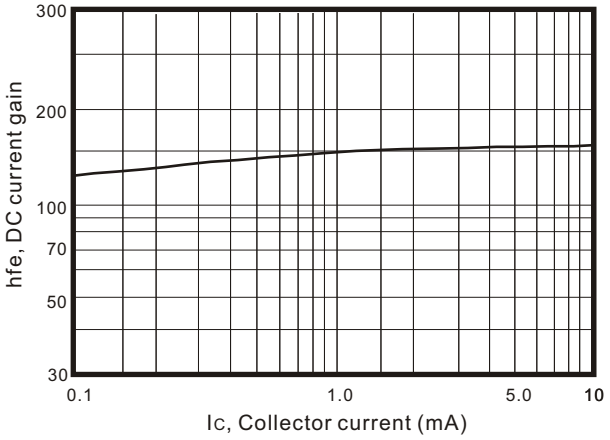


Fig. 8 - Output Admittance

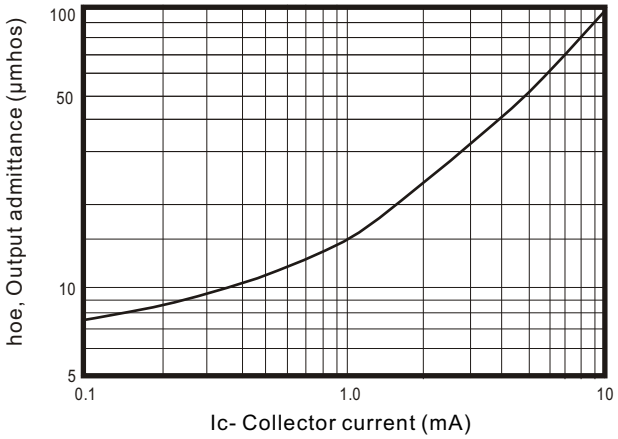


Fig. 9- Input impedance

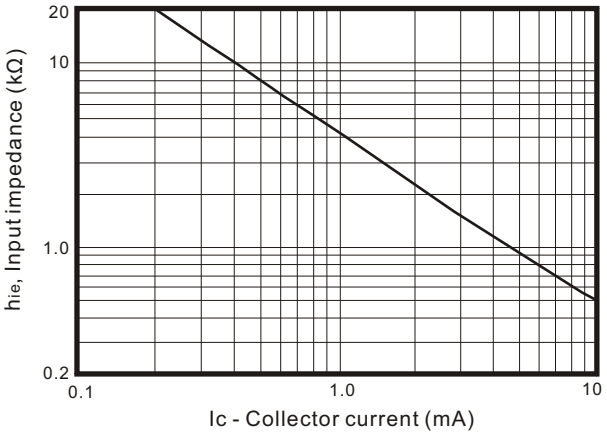


Fig. 10- Voltage feedback ratio

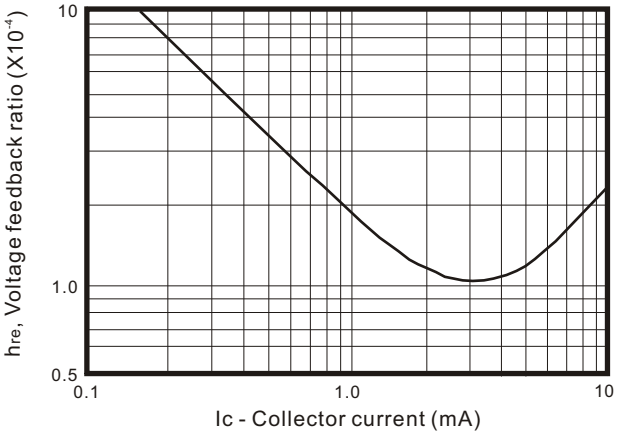


Fig . 11- “ON” voltages

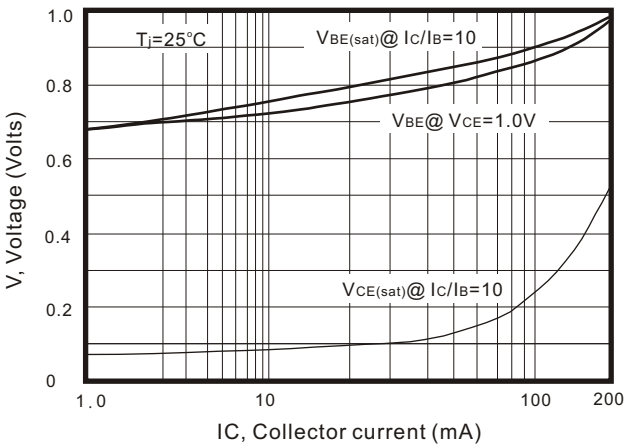


Fig . 12-Temperature coefficients