General Purpose Transistor

COMCHIP
SMD Diodes Specialist

MMBT2907A-G (PNP)

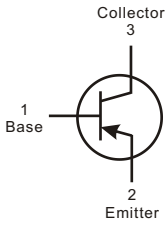
RoHS Device

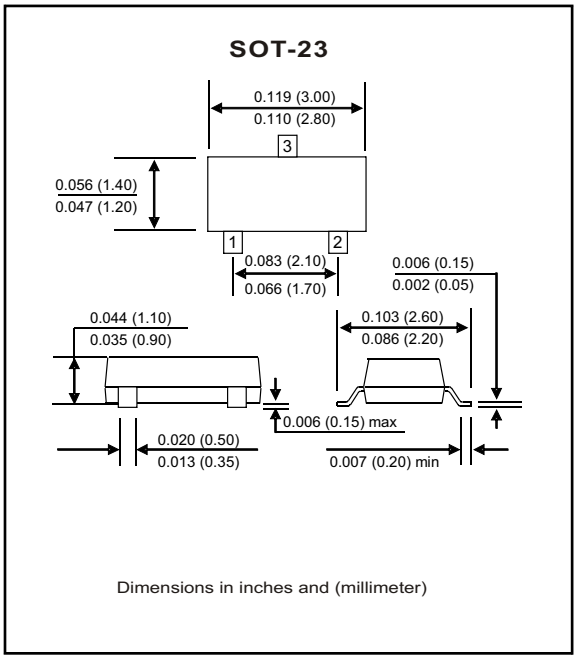
Features

-Epitaxial planar die construction

-Device is designed as a general purpose amplifier and switching.

-Useful dynamic range exceeds to 600mA As a switch and to 100MHz as an amplifier.





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

Parameter	Symbol	Min	Typ	Max	Unit
Collector-Base voltage	V_{CBO}			-60	V
Collector-Emitter voltage	V_{CEO}			-60	V
Emitter-Base voltage	V_{EBO}			-5	V
Collector current-Continuous	I_C			-0.6	A
Total device dissipatioin	P_D			0.35	W
Thermal resistance junction to ambi ent	$R_{\theta JA}$			357	°C/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 =10μA , I_E=0	V_{CBO}	-60		V
Collector-Emitter breakdown voltage	I_C =10mA , I_B=0	V_{CEO}*	-60		V
Emitter-Base breakdown voltage	I_E =10μA , I_C=0	V_{EBO}	-5		V
Collector cut-off current	V_{CB}=-50V , I_E=0	I_{CBO}		-20	nA
Base cut-off current	V_{CE}=-30V , V_{EB}=-0.5V	I_B		-50	nA
Collector cut-off current	V_{CE}=-30V , V_{BE}=-0.5V	I_{CEX}		-50	nA
DC current gain	V_{CE}=-10V , I_C=-0.1mA	$h_{FE(1)}$*	75		
	V_{CE}=-10V , I_C=-1mA	$h_{FE(2)}$*	100		
	V_{CE}=-10V , I_C=-10mA	$h_{FE(3)}$*	100		
	V_{CE}=-10V , I_C=-150mA	$h_{FE(4)}$*	100	300	
	V_{CE}=-10V , I_C=-500mA	$h_{FE(5)}$*	50		
Collector-Emitter saturation voltage	I_C=-150mA , I_B=-15mA	$V_{CE(SAT)}$*		-0.4	V
	I_C=-500mA , I_B=-50mA	$V_{CE(SAT)}$*		-1.6	V
Base-Emitter saturation voltage	I_C=-150mA , I_B=-15mA	$V_{BE(SAT)}$*		-1.3	V
	I_C=-500mA , I_B=-50mA	$V_{BE(SAT)}$*		-2.6	V
Transition frequency	V_{CE}=-20V , IC=-50mA F=100MHz	f_T	200		Mhz
Delay time	V_{CE}=-30V , I_C=-150mA	td		10	nS
Rise time	I_{B1}=I_{B2}=-15mA	tr		40	nS
Storage time	V_{CE}=-6V , I_C=-150mA	ts		80	nS
Fall time	I_{B1}=I_{B2}=-15mA	tf		30	nS

* Pulse test: tp≤300μS, δ≤0.02

RATING AND CHARACTERISTIC CURVES (MMBT2907A-G)

Fig.1 Typical pulsed current gain V.S. Collector current

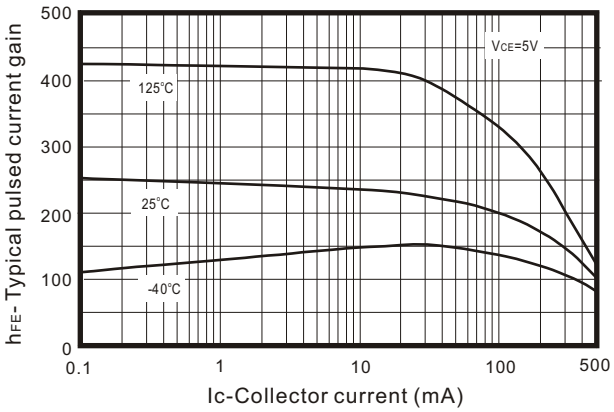


Fig.2 Collector-Emitter saturatioin voltage V.S. Collector current

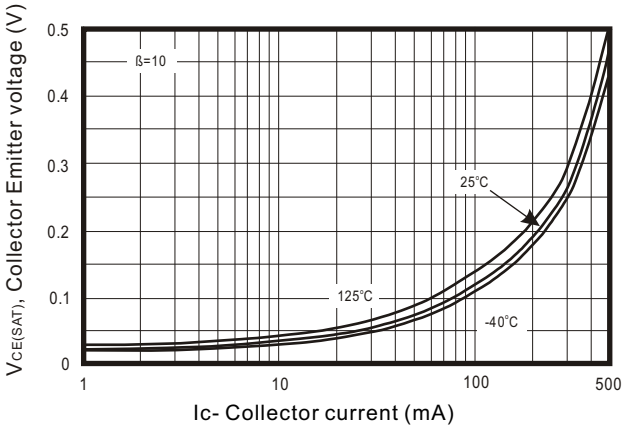


Fig. 3 Base-Emitter saturation Voltage V.S. Collector current

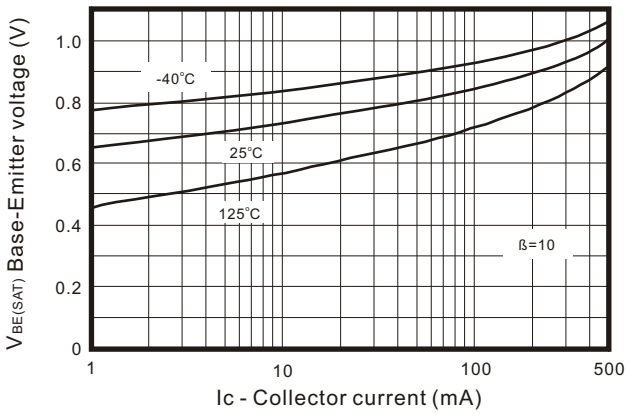


Fig.4 Base emitter ON voltage V.S. Collector current

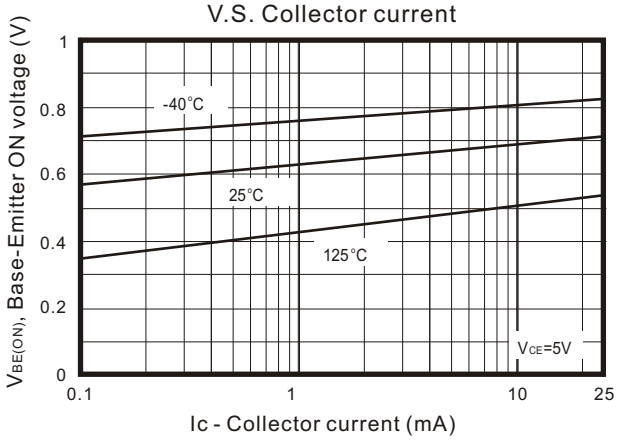


Fig. 5 Collector-Cutoff current V.S. Ambient temperature

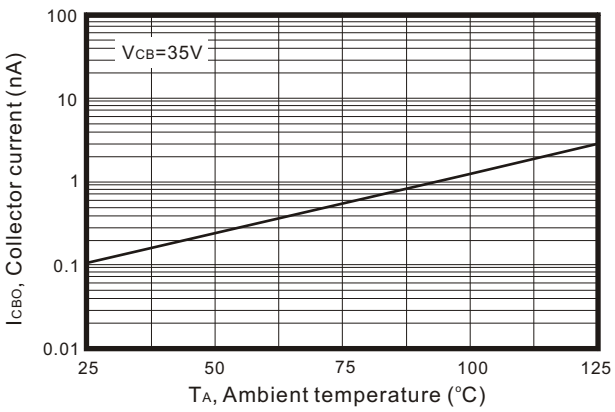
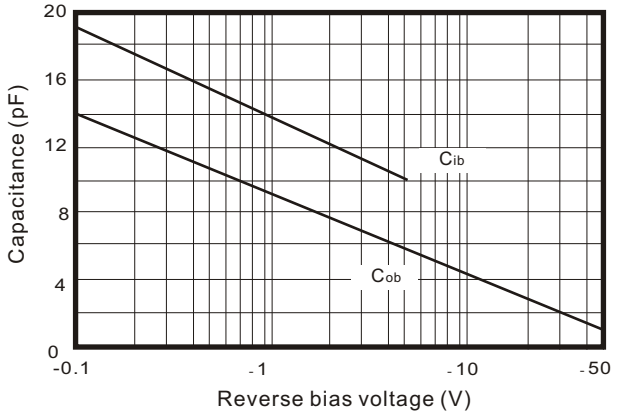


Fig.6 Input and output capacitance V.S. reverse bias voltage



RATING AND CHARACTERISTIC CURVES (MMBT2907A-G)

Fig.7 Switching times
V.S collector current

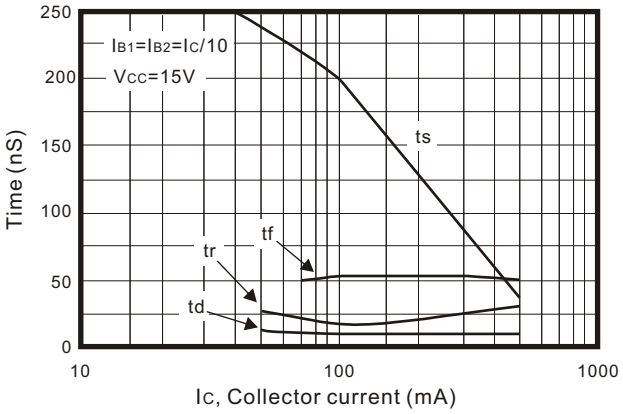


Fig.8 Turn on and turn off times
V.S collector current

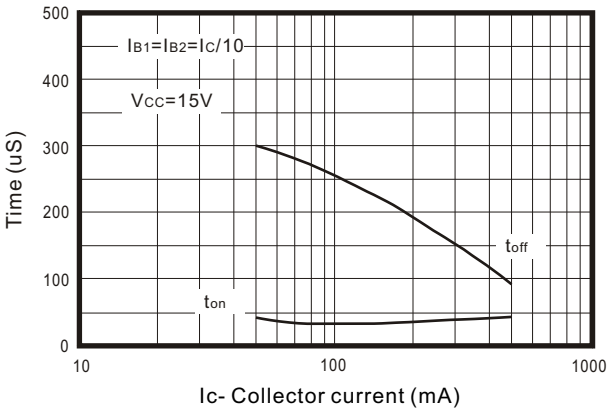


Fig. 9 Rise time V.S. Collector
and turn on base currents

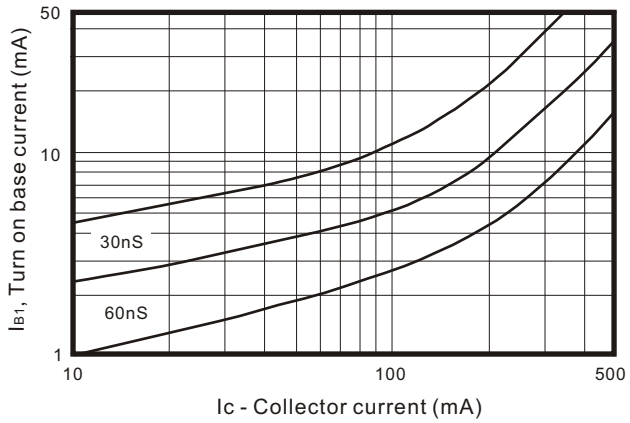


Fig.10 Common emitter characteristics

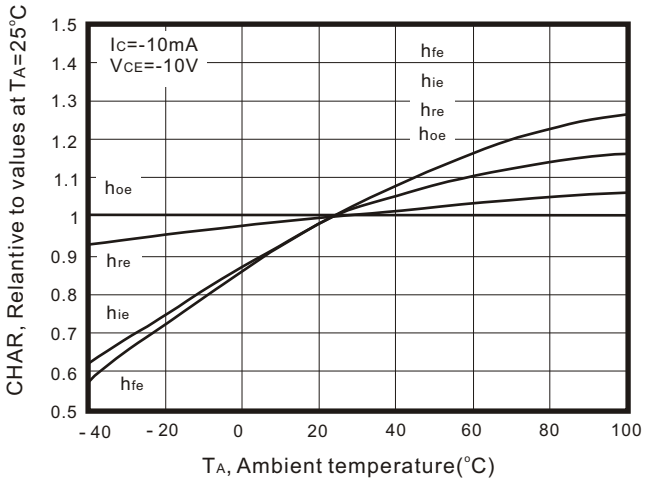


Fig . 11 Common emitter characteristics

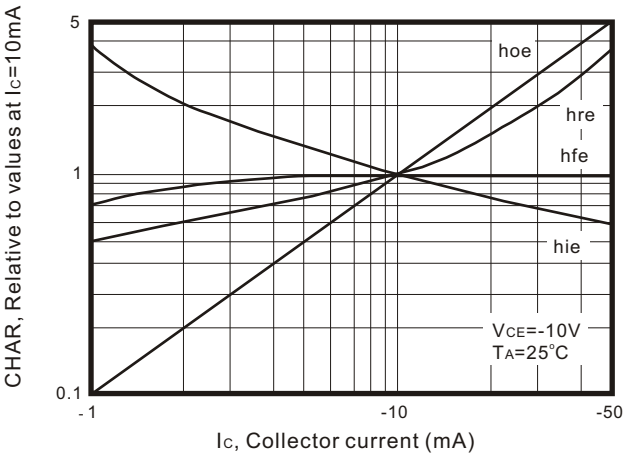


Fig . 12 Common emitter characteristics