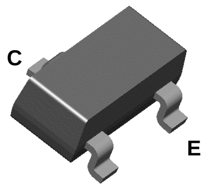
Diode Semiconductor Korea

MMBT2907A

Silicon Epitaxial Planar Transistor(PNP)



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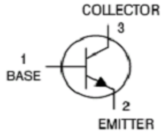


Features

Epitaxial planar die construction.

Complementary NPN Type available(MMBT2222A)

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-600	mA
P_C	Collector Dissipation	250	mW
T_j, T_{stg}	Junction and Storage Temperature	-55~150	℃

Electrical Characteristics

T_A = 25°C unless otherwise noted

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10 μA,I_E =0	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-10mA,I_B=0	-60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10 μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB} =-50V,I_E=0			-20	nA
Collector cut-off current	I_{CEX}	V_{CE} =-30V,$V_{BE(off)}$ =-0.5V			-50	nA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V,I_C=0			-10	nA
DC current gain	h_{FE}	V_{CE}=-10V,I_C=-10mA	100			
		V_{CE}=-10V,I_C=-150mA	100		300	
		V_{CE} =-10V,I_C=-500mA	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C= -150mA I_B= -15mA			-0.4	V
Base-emitter voltage	V_{BE}	I_C=-150mA I_B= -15mA			-1.3	V
Transition frequency	f_T	V_{CE} =20V, I_C= 50mA	200			MHz
Collector Output Capacitance	C_{Ob}	V_{CB} =10V, I_E=0 f=1MHz			80	PF

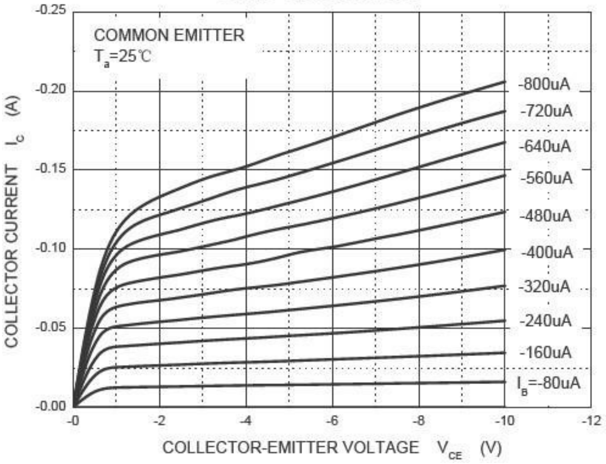
Electrical Characteristics

T_A = 25°C unless otherwise noted

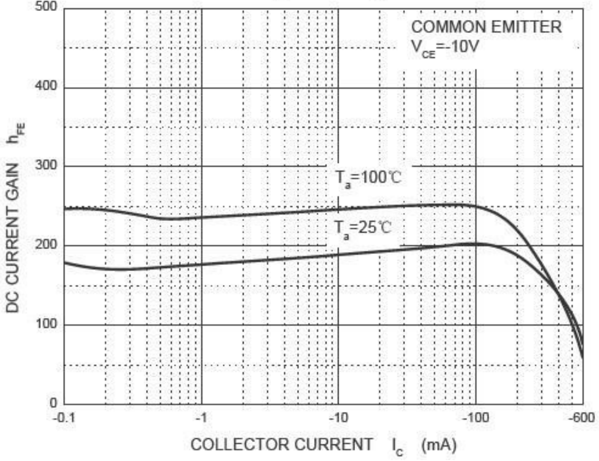
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Turn-on Time	t_{on}	V_{CE}=-30V I_C=-150mA I_{B1}=-15mA			45	ns
Delay Time	t_d				10	ns
Rise Time	t_r				40	ns
Turn-off Time	t_{off}	V_{CE}=-6V I_C=-150mA I_{B1}=I_{B2}=-15mA			100	ns
Storage Time	t_s				80	ns
Fall Time	t_f				30	ns

Typical Characteristics

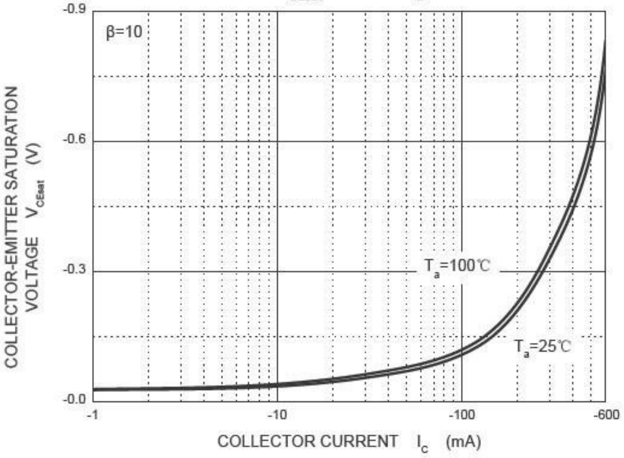
Static Characteristic



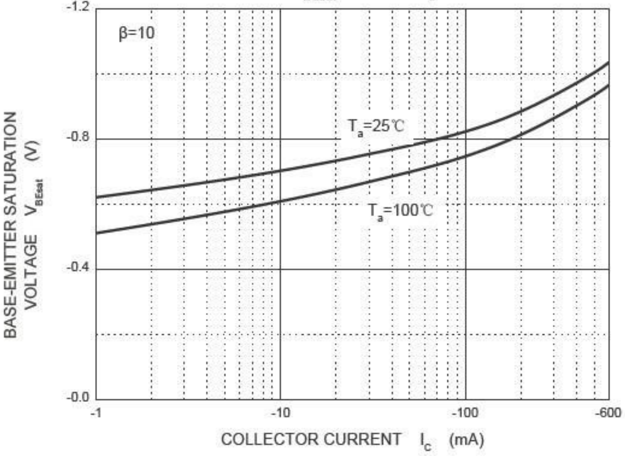
h_{FE} —— I_C



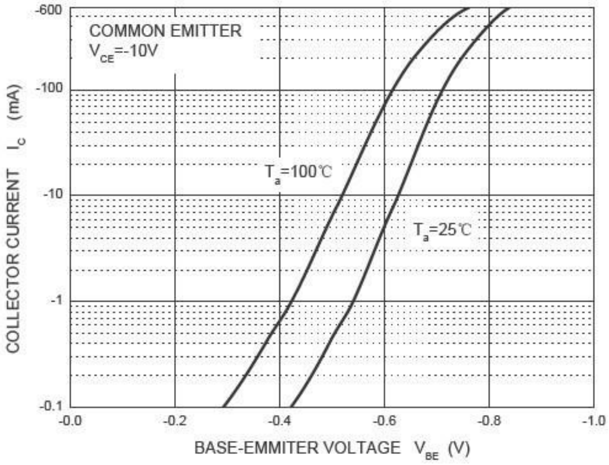
V_{CEsat} —— I_C



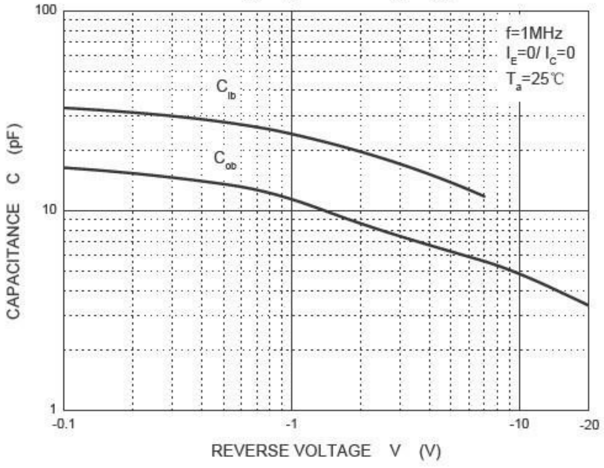
V_{BEsat} —— I_C



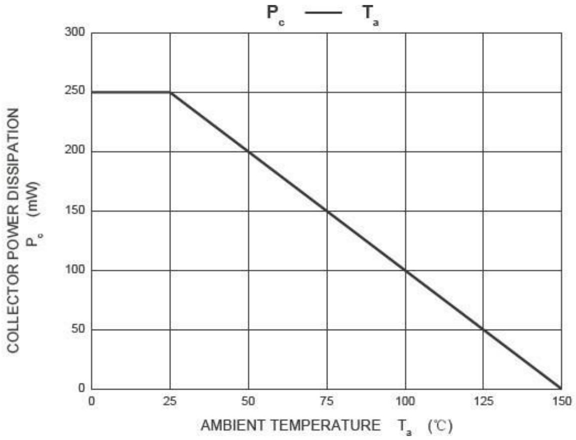
I_C —— V_{BE}



C_{ob} / C_{ib} —— V_{CB} / V_{EB}



Typical characteristics



OUTLINE DRAWING

SOT-23