Ordering number:EN781F

PNP/NPN Epitaxial Planar Silicon Transistors

2SA1208/2SC2910

High-Voltage Switching
Audio 80W Output Predriver Applications

Features

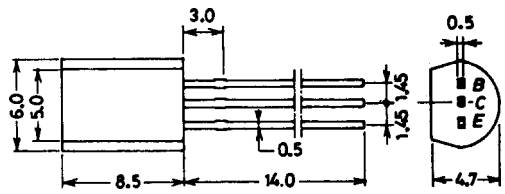
- Adoption of FBET process.
- High breakdown voltage.
- Excellent linearity of h_{FE} and small C_{ob}.
- Fast swtching speed.

Package Dimensions

unit:mm

2006A

[2SA1208/2SC2910]



EIAJ:SC-51
SANYO:MP

B:Base
C:Collector
E:Emitter

( ) : 2SA1208

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)180	V
Collector-to-Emitter Voltage	V_{CEO}		(–)160	V
Emitter-to-Base Voltage	V_{EBO}		(–)5	V
Collector Current	I_C		(–)70	mA
Collector Current (Pulse)	I_{CP}		(–)140	mA
Collector Dissipation	P_C		900	mW
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

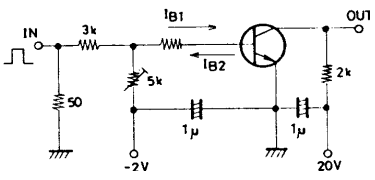
Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)80V, I_E=0			(–)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)4V, I_C=0			(–)0.1	μA
DC Current Gain	h_{FE}	V_{CE}=(–)5V, I_C=(–)10mA	100*		400*	
Gain-Bandwidth Product	f_T	V_{CE}=(–)10V, I_C=(–)10mA		150		MHz
Output Capacitance	C_{ob}	V_{CB}=(–)10V, f=1MHz		(2.5)2.0		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)30mA, I_B=(–)3mA		0.08 (–0.14)	0.3 (–0.4)	V
Turn-ON Time	t_{on}	See specified Test Circuit		0.1		μs
Fall Time	t_f	See specified Test Circuit		0.2		μs
Storage Time	t_{stg}	See specified Test Circuit		1.0		μs

* : The 2SA1208/2SC2910 are classified by 10mA h_{FE} are follows :

100	R	200	140	S	280	200	T	400

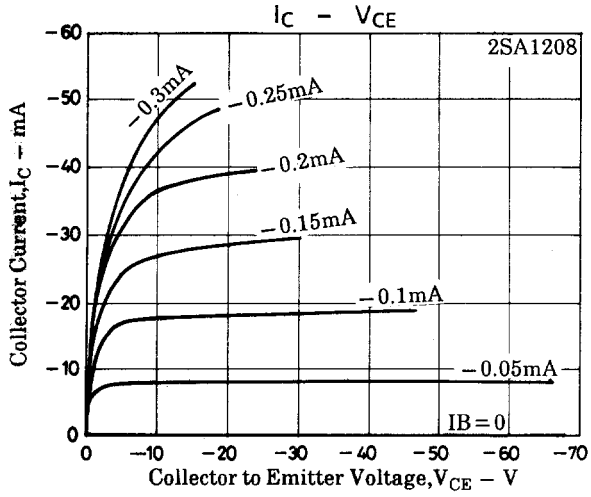
Switching Time Test Circuit

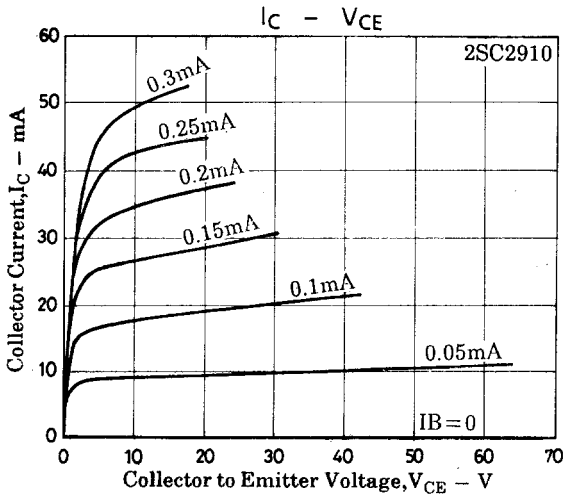


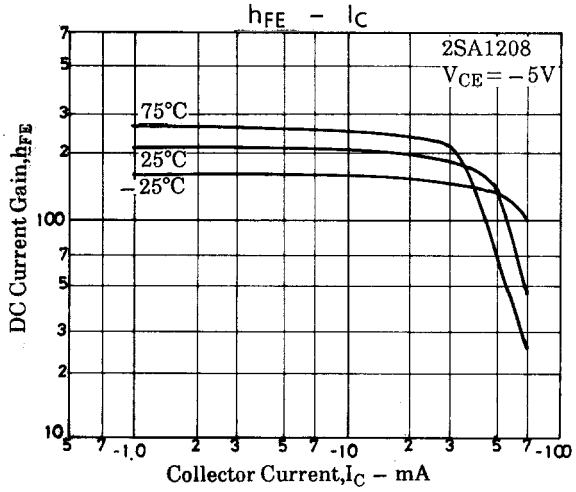
I_C=10I_{B1}=–10I_{B2}=10mA (For PNP, the polarity is reversed)

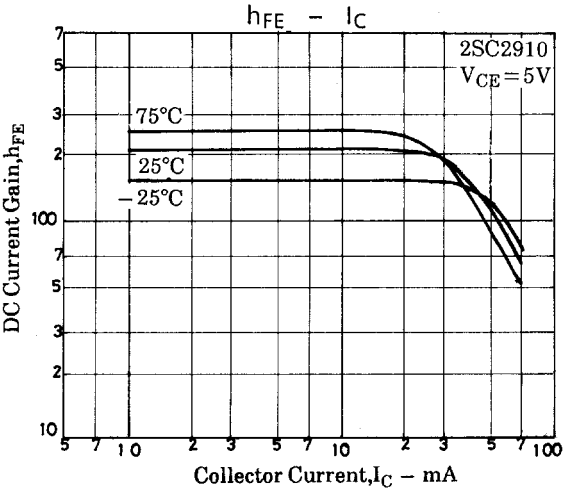
Unit (resistance : Ω, capacitance : F)

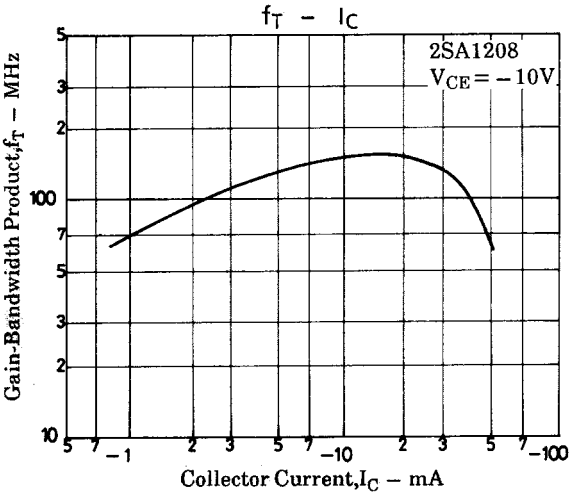
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

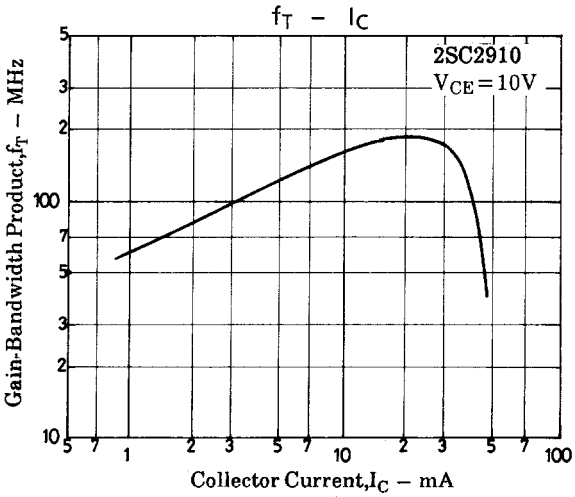

IC – VCE
2SA1208
–0.3mA
–0.25mA
–0.2mA
–0.15mA
–0.1mA
–0.05mA
IB=0
Collector Current,IC – mA
Collector to Emitter Voltage,VCE – V

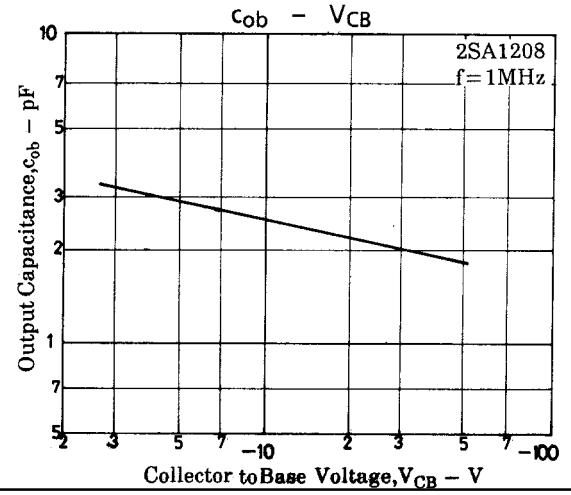

IC – VCE
2SC2910
0.3mA
0.25mA
0.2mA
0.15mA
0.1mA
0.05mA
IB=0
Collector Current,IC – mA
Collector to Emitter Voltage,VCE – V

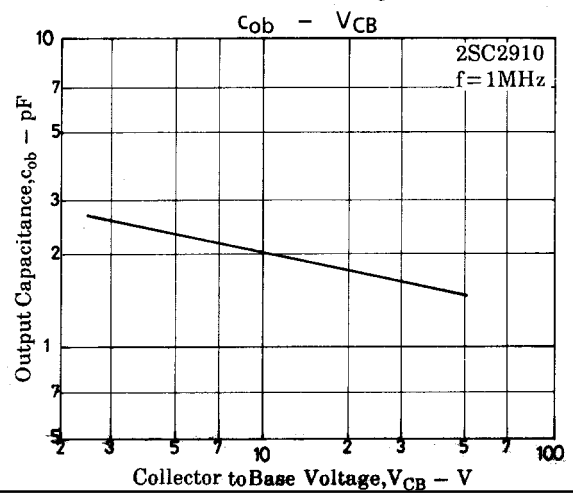

hFE – IC
2SA1208
VCE=–5V
75°C
25°C
–25°C
DC Current Gain,hFE
Collector Current,IC – mA


hFE – IC
2SC2910
VCE=5V
75°C
25°C
–25°C
DC Current Gain,hFE
Collector Current,IC – mA

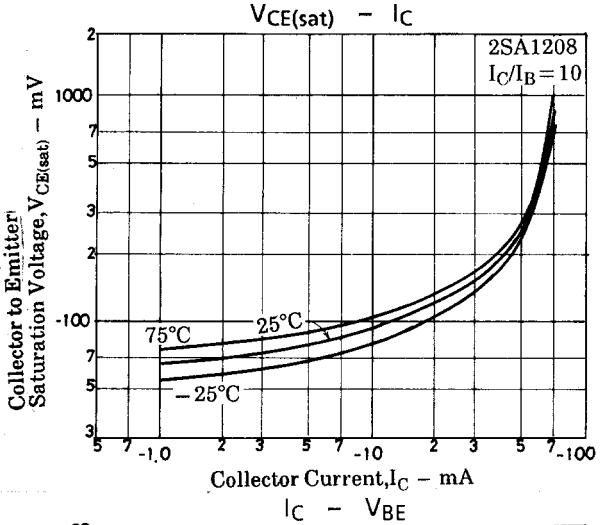

fT – IC
2SA1208
VCE=–10V
Gain-Bandwidth Product,fT – MHz
Collector Current,IC – mA


fT – IC
2SC2910
VCE=10V
Gain-Bandwidth Product,fT – MHz
Collector Current,IC – mA

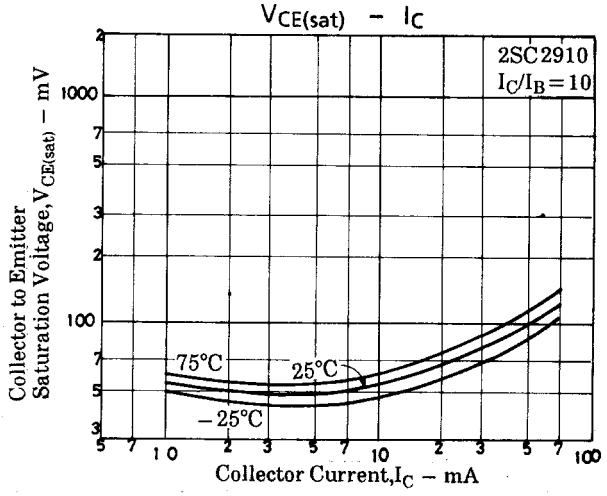

Cob – VCB
2SA1208
f=1MHz
Output Capacitance,Cob – pF
Collector toBase Voltage,VCB – V


Cob – VCB
2SC2910
f=1MHz
Output Capacitance,Cob – pF
Collector toBase Voltage,VCB – V

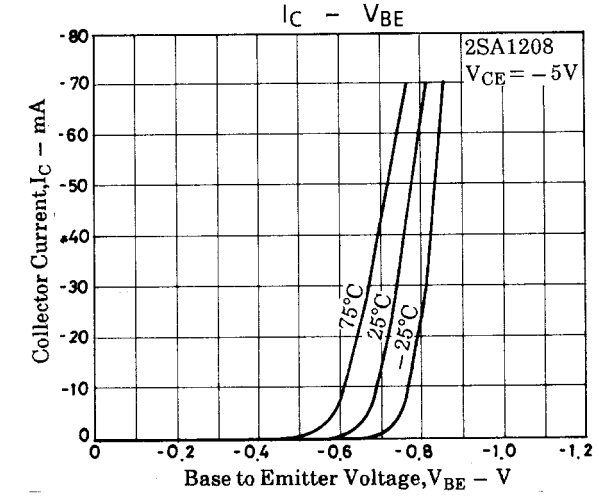
$V_{CE(sat)}$ – I_C



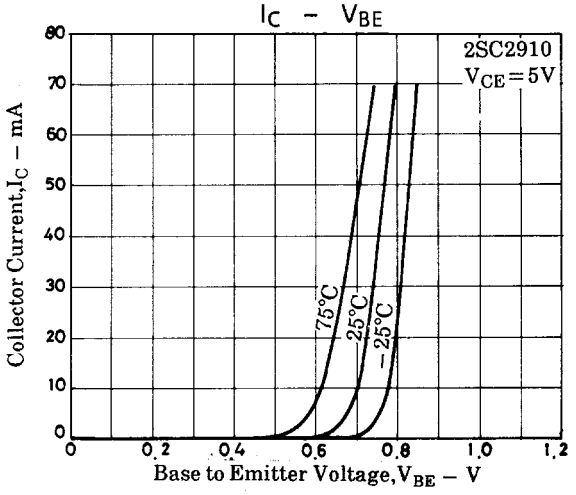
$V_{CE(sat)}$ – I_C



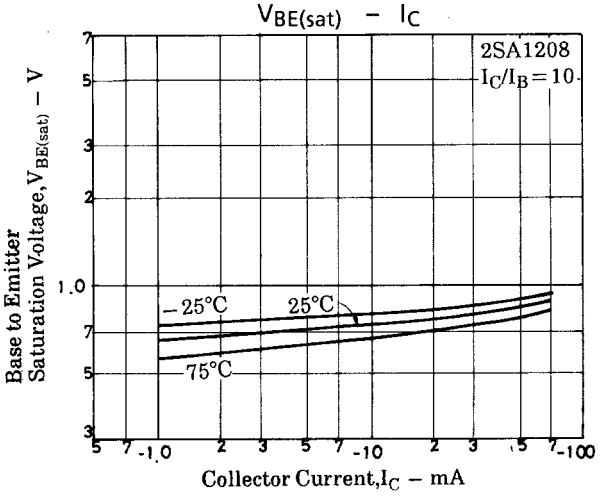
I_C – V_{BE}



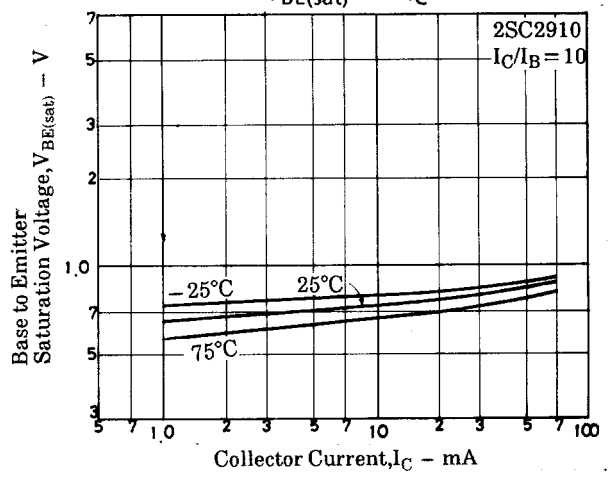
I_C – V_{BE}



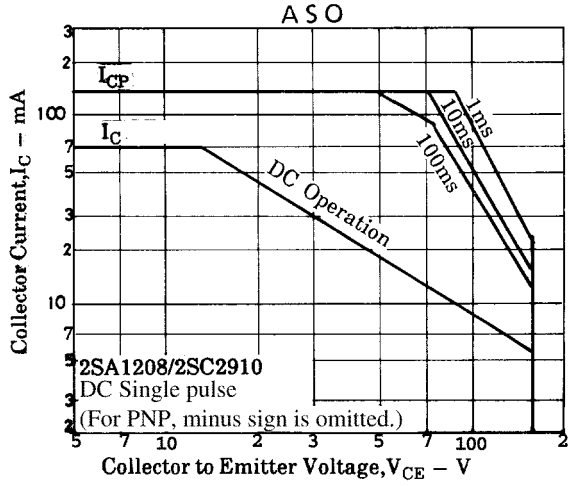
$V_{BE(sat)}$ – I_C



$V_{BE(sat)}$ – I_C



ASO



P_C – T_a