



SANYO Semiconductors

DATA SHEET

2SA1209 / 2SC2911 — PNP / NPN Epitaxial Planar Silicon Transistors 160V / 140mA High-Voltage Switching and AF 100W Predriver Applications

Features

- Adoption of FBET process.
- High breakdown voltage.
- Good linearity of hFE and small Cob.
- Fast switching time.

Specifications () : 2SA1209

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-)180	V
Collector-to-Emitter Voltage	V _{CEO}		(-)160	V
Emitter-to-Base Voltage	V _{EB0}		(-)5.0	V
Collector Current	I _C		(-)140	mA
Collector Current (Pulse)	I _{CP}		(-)200	mA
Collector Dissipation	P _C		1.0	W
		T _c =25°C	10	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

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SANYO Semiconductor Co., Ltd.

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

2SA1209 / 2SC2911

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)80V, I_E = 0A$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0A$			(-)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}	$V_{CB} = (-)10V, f = 1MHz$		(4.0)3.0		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)50mA, I_B = (-)5mA$		(-0.14)0.07	(-0.4)0.3	V
Turn-On Time	t_{on}	See specified Test Circuit.		0.1		μs
Storage Time	t_{stg}	See specified Test Circuit.		1.5		μs
Fall Time	t_f	See specified Test Circuit.		0.1		μs

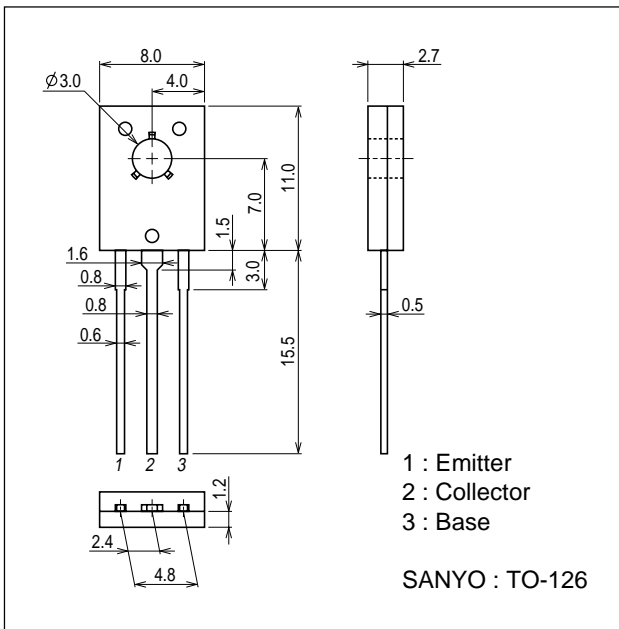
* : The 2SA1209/2SC2911 are classified by 10mA h_{FE} as follows :

Rank	R	S	T
h_{FE}	100 to 200	140 to 280	200 to 400

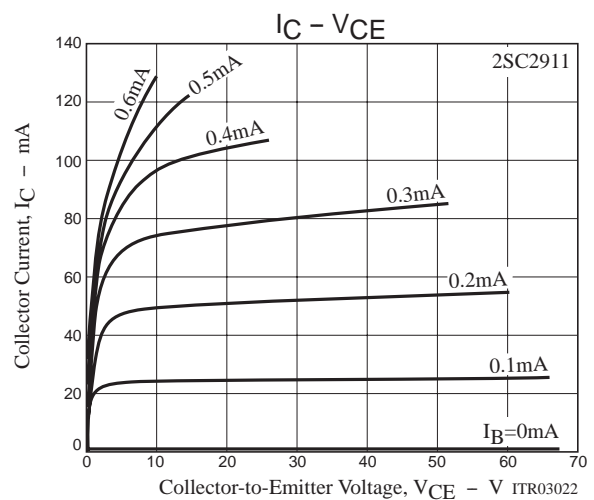
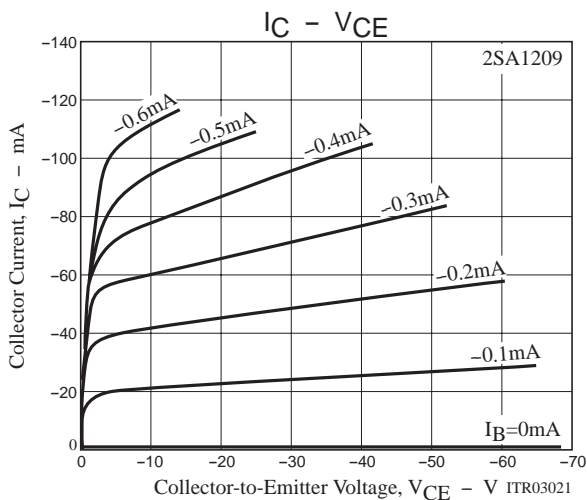
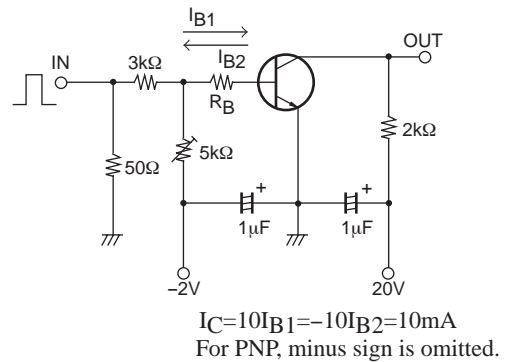
Package Dimensions

unit : mm (typ)

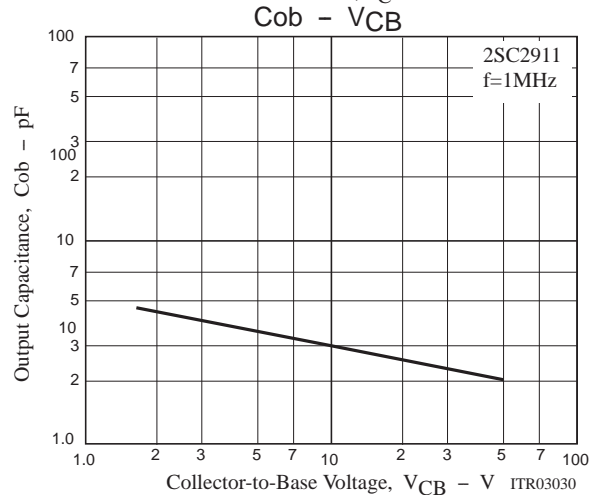
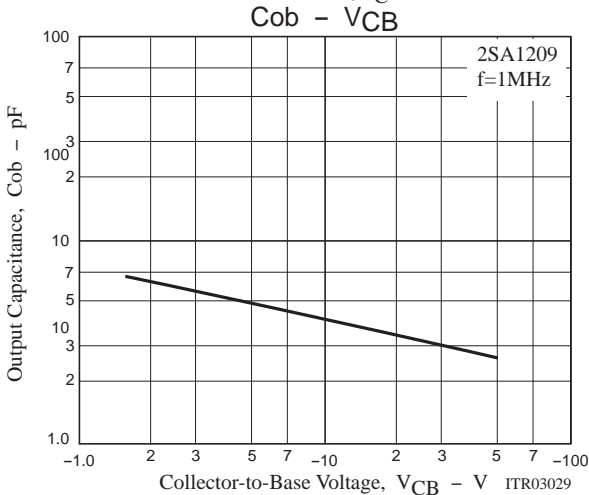
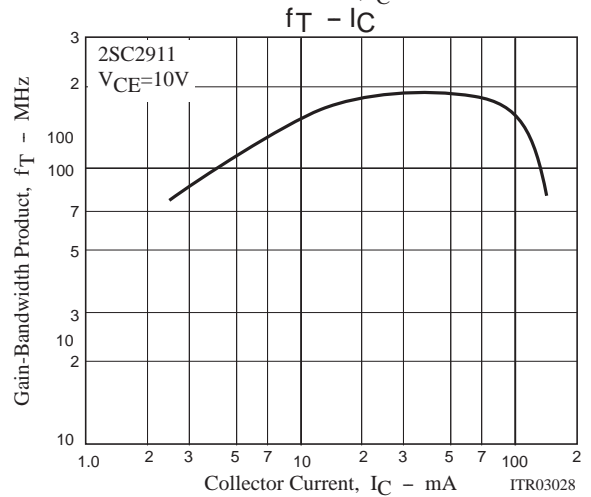
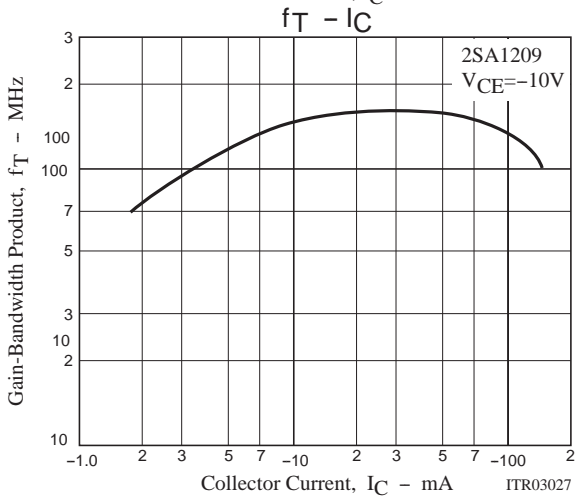
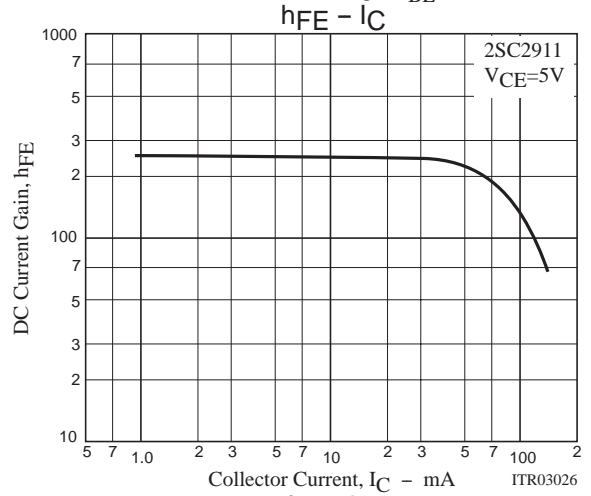
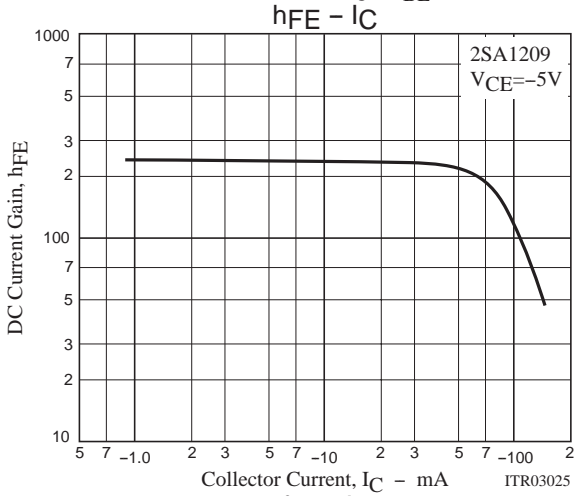
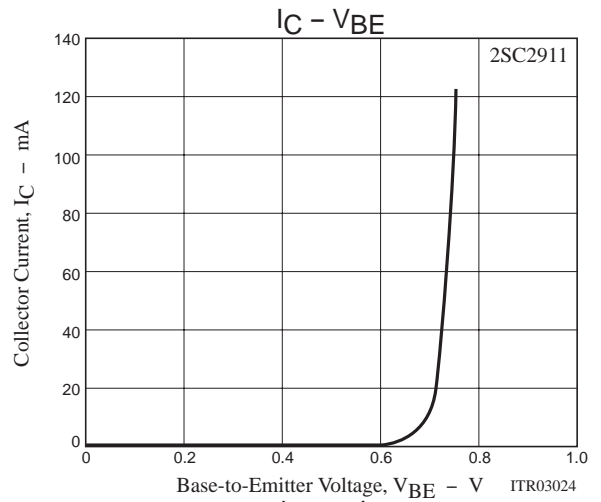
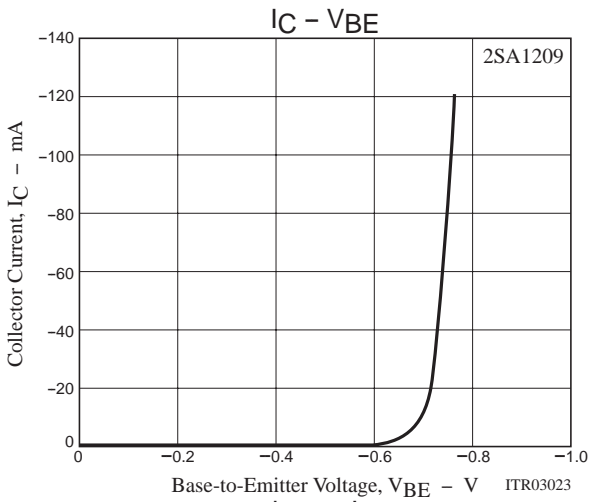
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Switching Time Test Circuit



2SA1209 / 2SC2911



2SA1209 / 2SC2911

