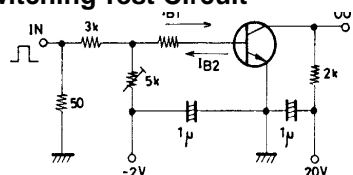


**SANYO****2SA1209/2SC2911****160V/140mA High-Voltage Switching  
and AF 100W Predriver Applications****Features**

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

**Switching Test Circuit**

$I_C = 10I_{B1} = -10I_{B2} = 10\text{mA}$   
 (For PNP, the polarity is reversed)  
 Unit (resistance :  $\Omega$ , capacitance : F)

( ) : 2SA1209

**Specifications****Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$** 

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	$I_C$		(-)140	mA
Collector Current (Pulse)	$I_{CP}$		(-)200	mA
Collector Dissipation	$P_C$	$T_c = 25^\circ\text{C}$	1	W
			10	W
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

**Electrical Characteristics at  $T_a = 25^\circ\text{C}$** 

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)80\text{V}, I_E = 0$			(-)0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = (-)5\text{V}, I_C = (-)10\text{mA}$	100*		400*	
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)10\text{V}, I_C = (-)10\text{mA}$		150		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(4.0)3.0		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)50\text{mA}, I_B = (-)5\text{mA}$		0.07 (-0.14)	0.3 (-0.4)	V
Turn-ON Time	$t_{on}$	See specified Test Circuit		0.1		$\mu\text{s}$
Fall Time	$t_f$	See specified Test Circuit		0.1		$\mu\text{s}$
Storage Time	$t_{stg}$	See specified Test Circuit		1.5		$\mu\text{s}$

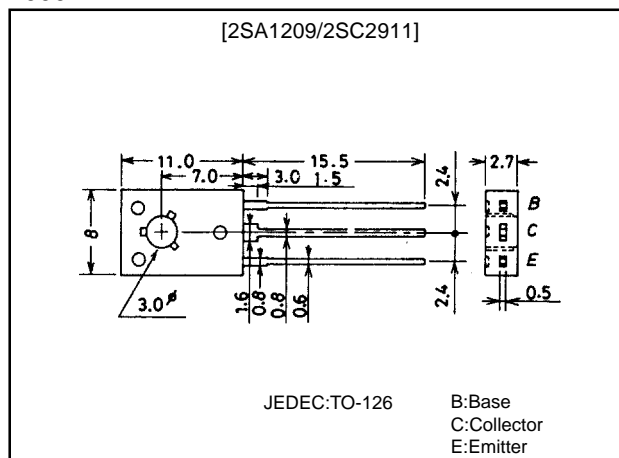
\*: The 2SA1209/2SC2911 are classified by 10mA  $h_{FE}$  as follows :

100	R	200	140	S	280	200	T	400
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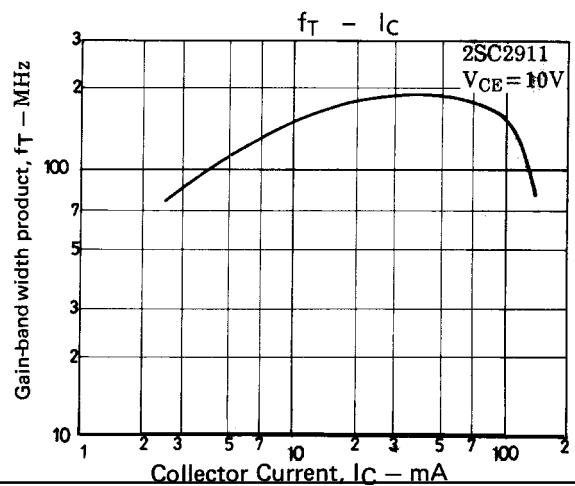
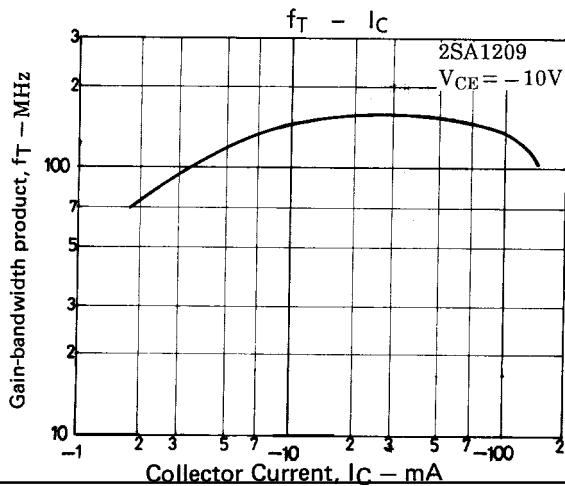
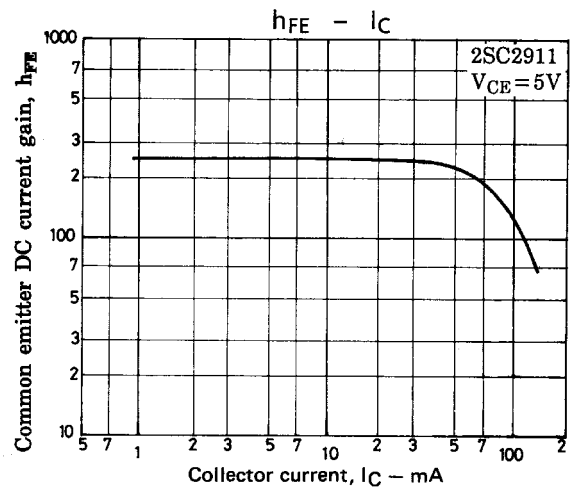
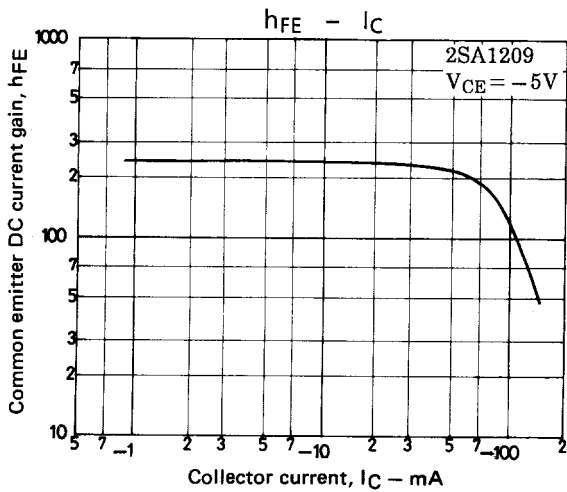
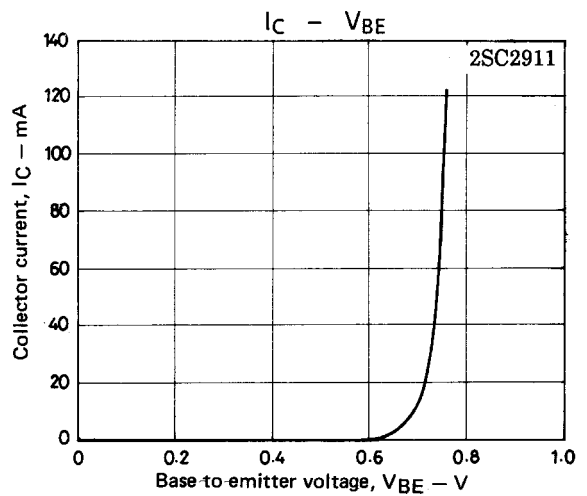
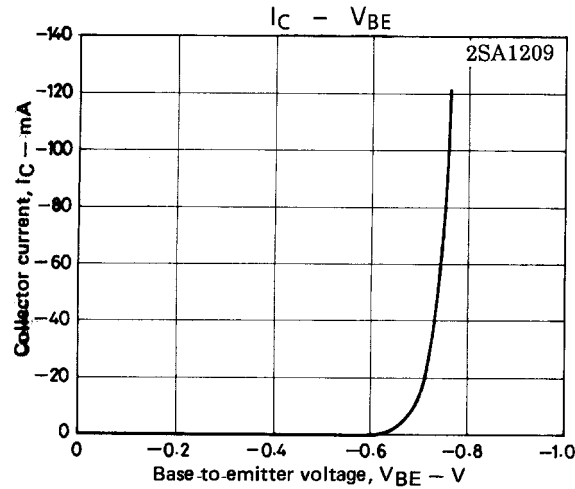
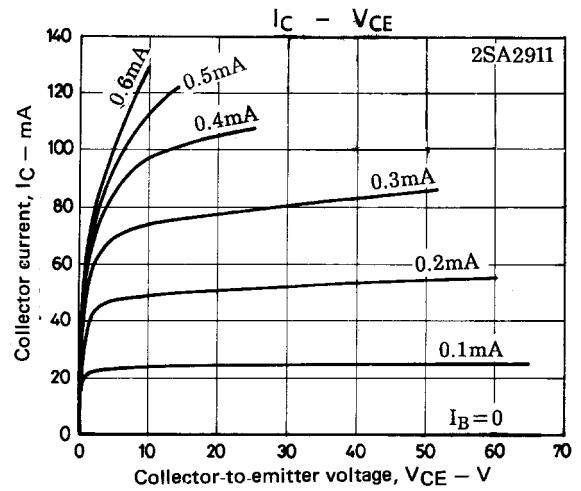
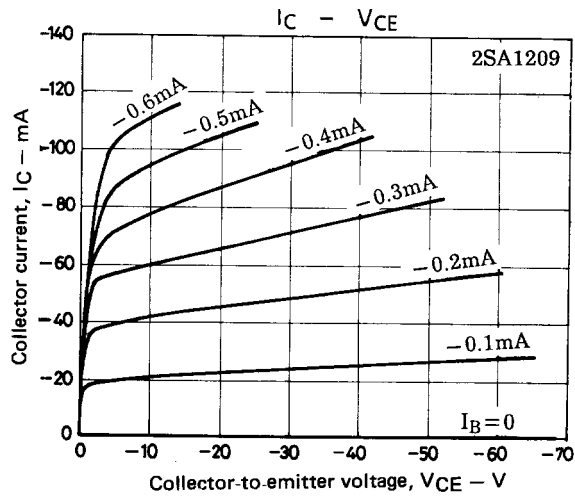
**Package Dimensions**

unit:mm

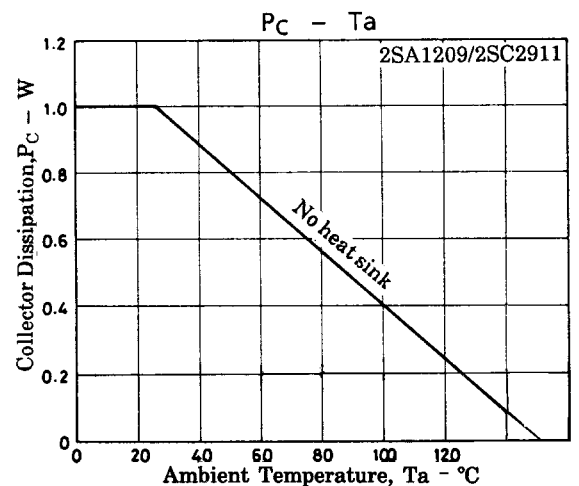
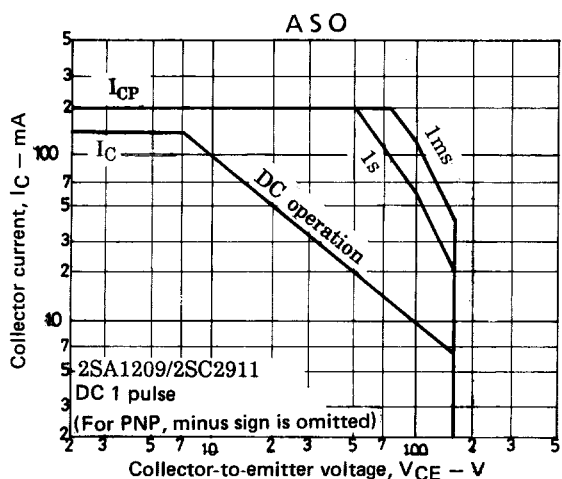
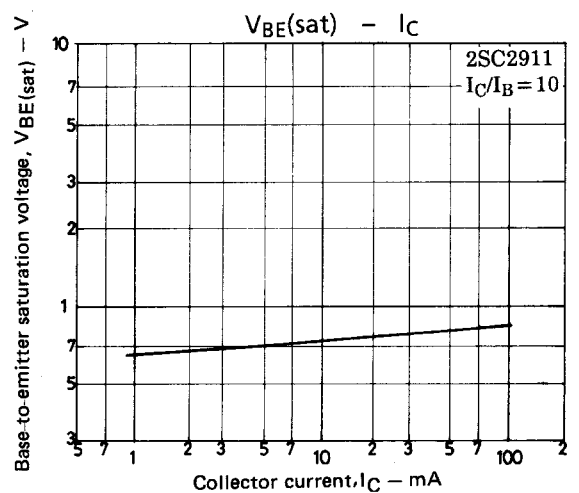
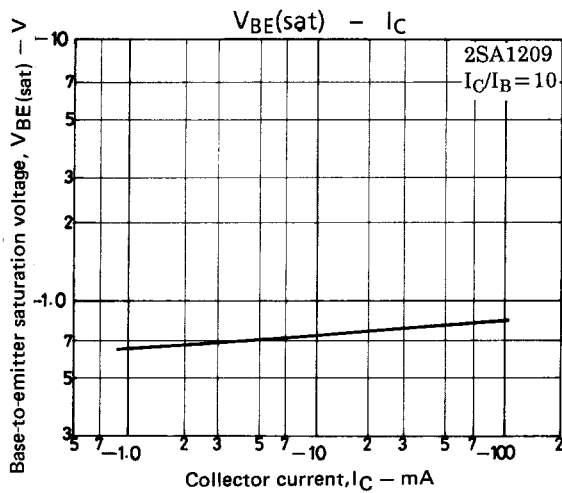
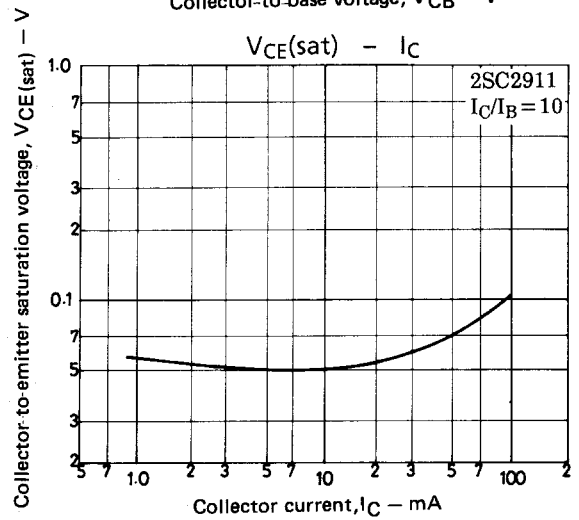
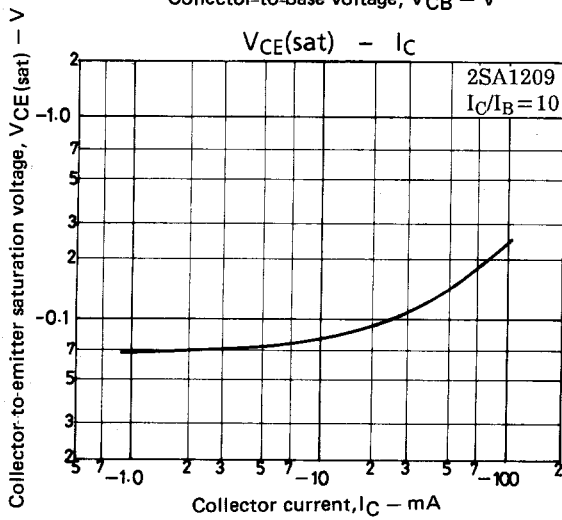
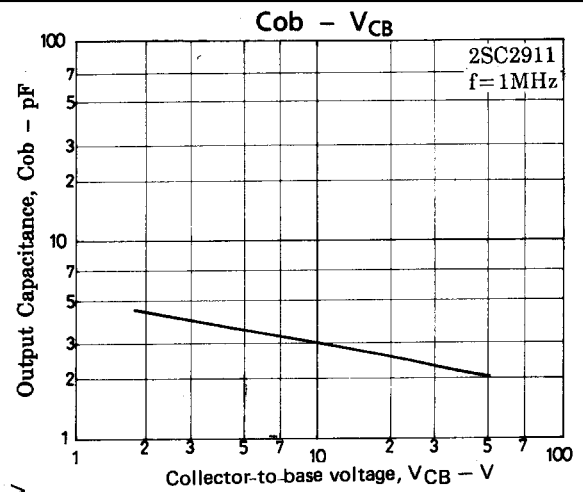
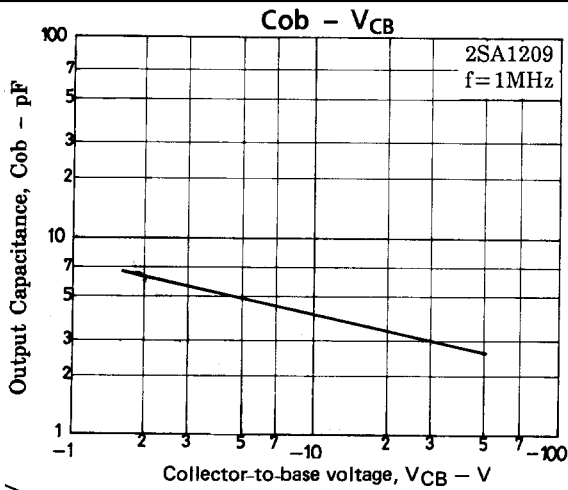
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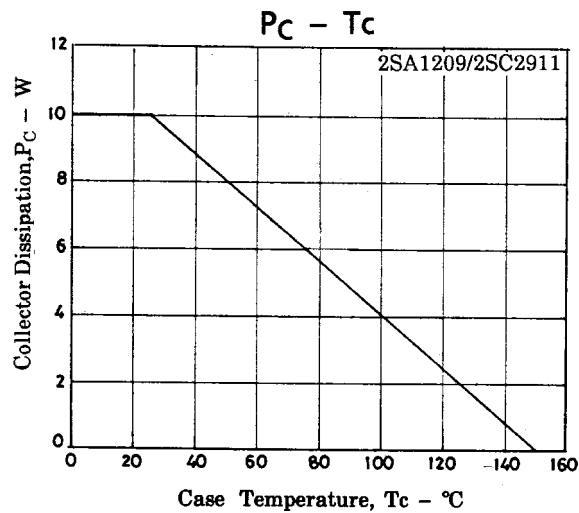


# 2SA1209/2SC2911



# 2SA1209/2SC2911





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