

**SANYO**

No.779C

**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  $h_{FE}$  and small  $C_{ob}$
- Fast switching speed

( ) : 2SA1209

**Maximum Ratings/ $T_a = 25^\circ\text{C}$**

			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	$P_C$	1	W
		$T_c = 25^\circ\text{C}$	
Junction temperature	$T_j$	10	W
Storage temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$

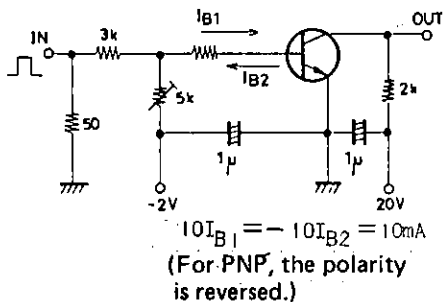
**Electrical Characteristics/ $T_a = 25^\circ\text{C}$**

			min	typ	max	unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = (-)80, I_E = 0$			(-)0.1	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = (-)4\text{ V}, I_C = 0$			(-)0.1	$\mu\text{A}$
Common emitter DC current gain	$h_{FE}$	$V_{CE} = (-)5\text{ V}, I_C = (-)10\text{ mA}$	100*		400*	
Gain-band width product	$f_T$	$V_{CE} = (-)10\text{ V}, I_C = (-)10\text{ mA}$		150		MHz
Common base output capacitance	$C_{ob}$	$V_{CB} = (-)10\text{ V}, f = 1\text{ MHz}$		(4.0)		pF
				3.0		
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = (-)50\text{ mA}, I_B = (-)5\text{ mA}$	(-0.14)	(-0.4)		V
			0.07	0.3		
Turn-on time	$T_{on}$	See specified test circuit.		0.1		$\mu\text{s}$
Storage time	$t_{stg}$	See specified test circuit.		1.5		$\mu\text{s}$
Fall time	$t_f$	See specified test circuit.		0.1		$\mu\text{s}$

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

100 R	200	140 S	280	200 T	400
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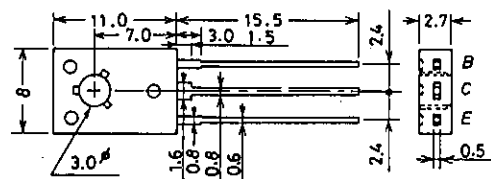
**Switching Time Test Circuit**



Unit (resistance:  $\Omega$ , capacitance: F)

**Package Dimensions 2009A**

(unit: mm)

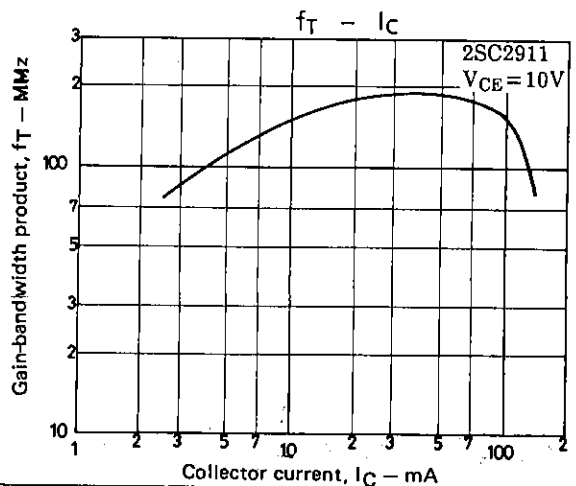
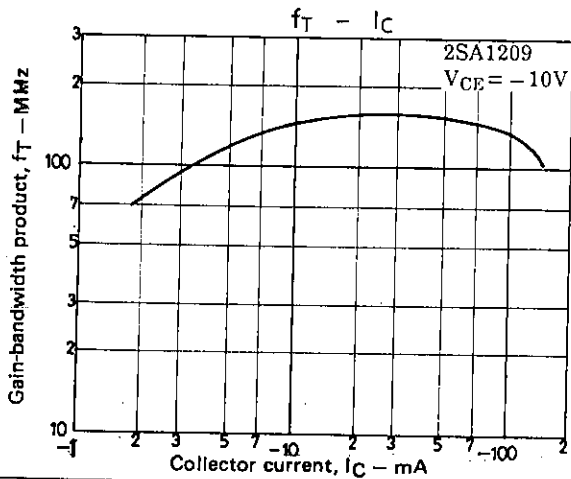
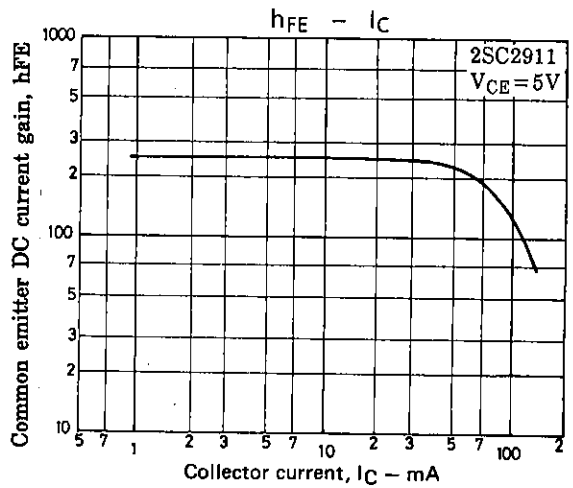
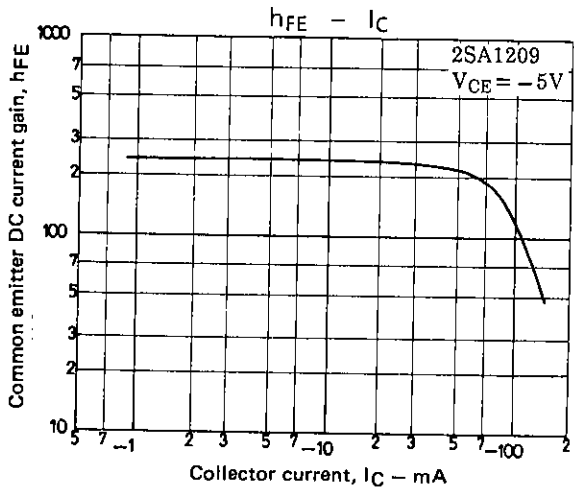
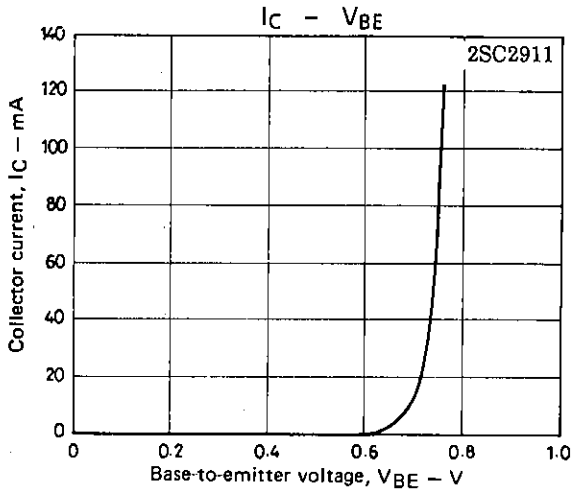
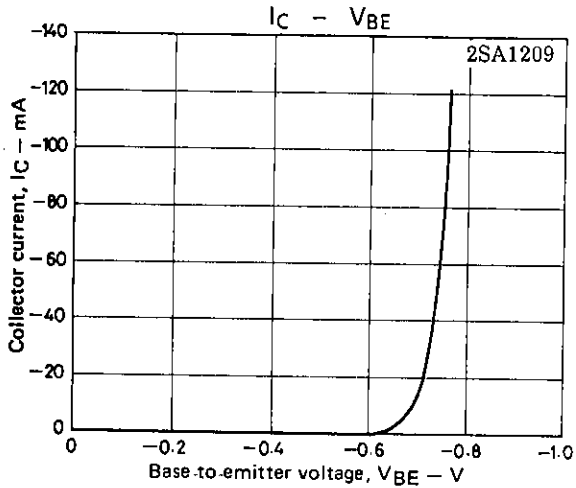
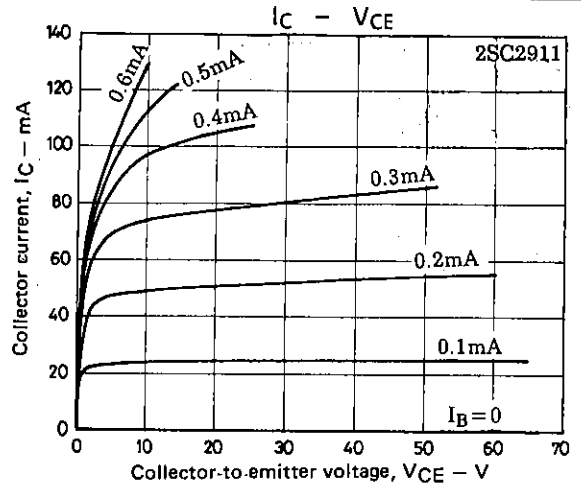
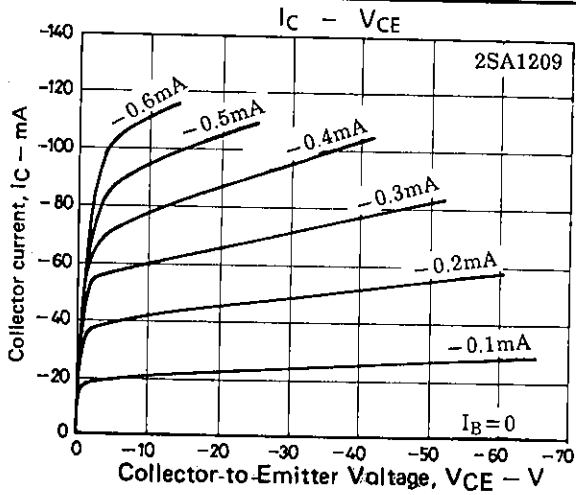


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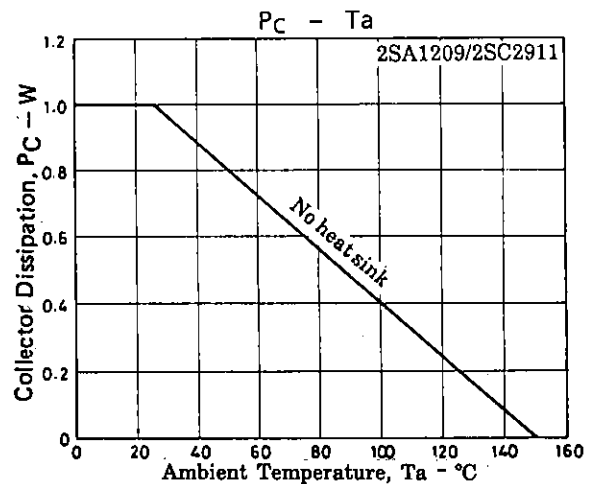
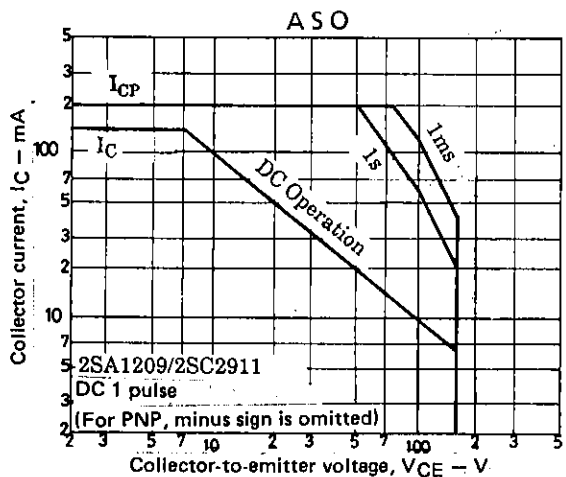
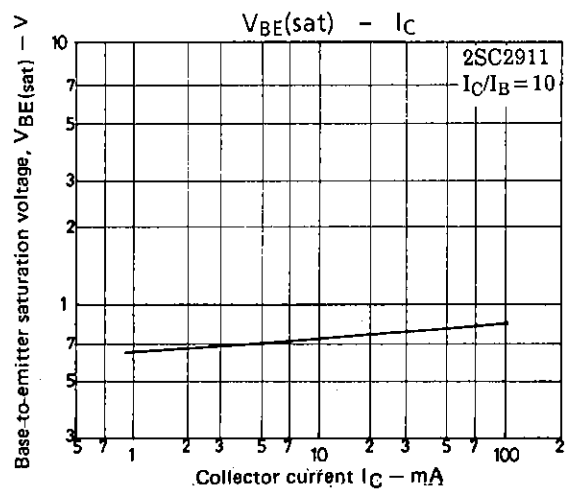
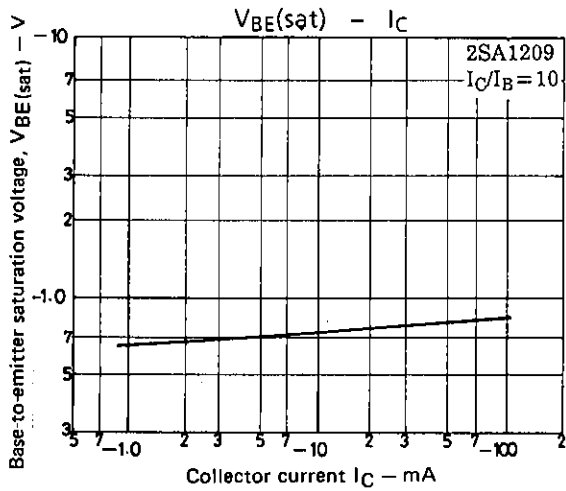
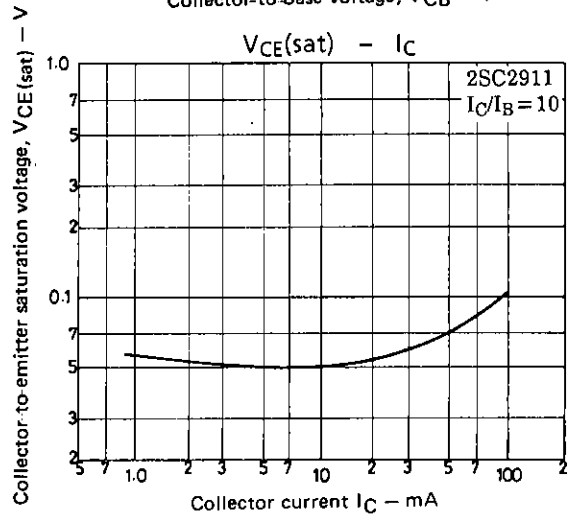
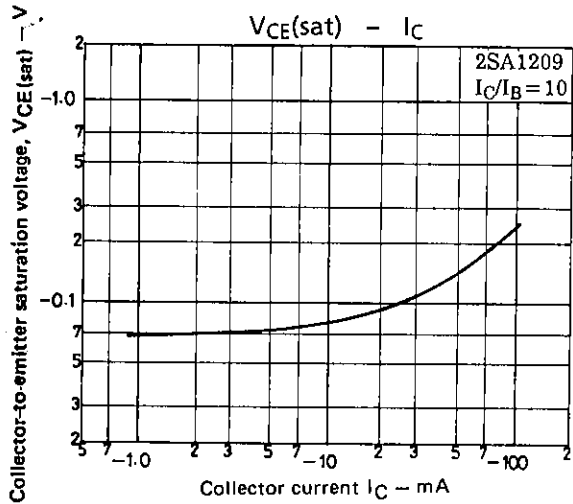
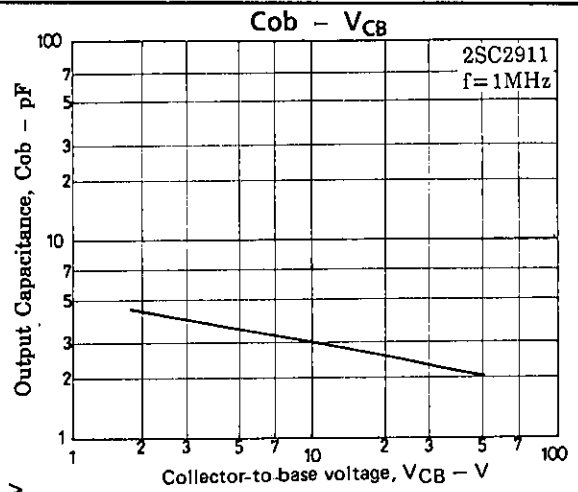
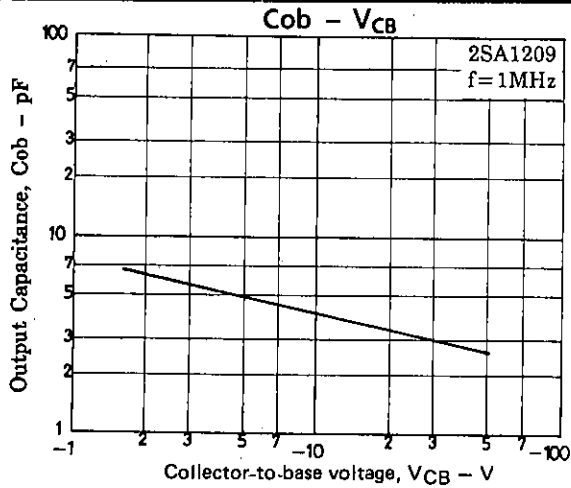
B: Base  
 C: Collector  
 E: Emitter

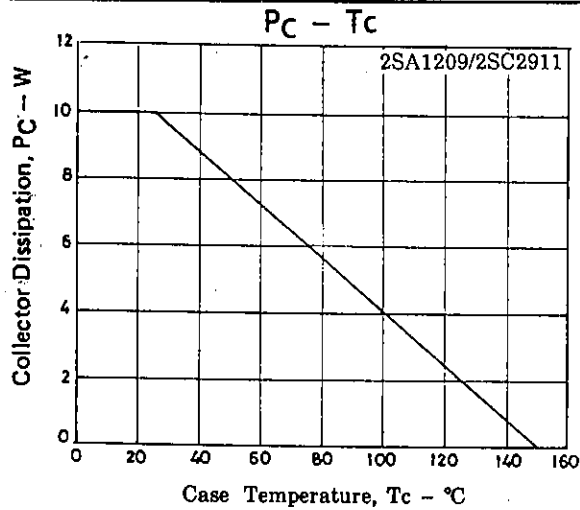
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