

**SANYO****2SA1207/2SC2909****High-Voltage Switching  
AF 60W Predriver Applications****Features**

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

( ) : 2SA1207

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

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	$P_C$		600	mW
Junction Temperature	$T_j$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

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

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

\* : The 2SA1207/2SC2909 are classified by 10mA  $h_{FE}$  as follows :

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

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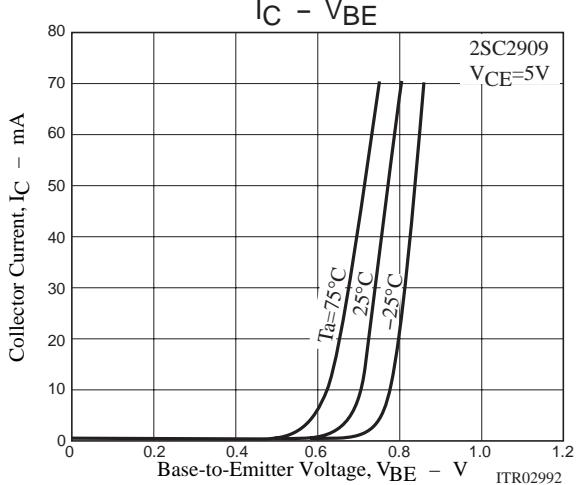
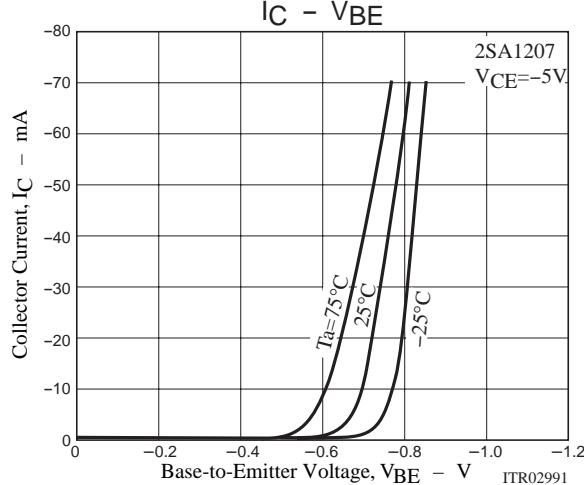
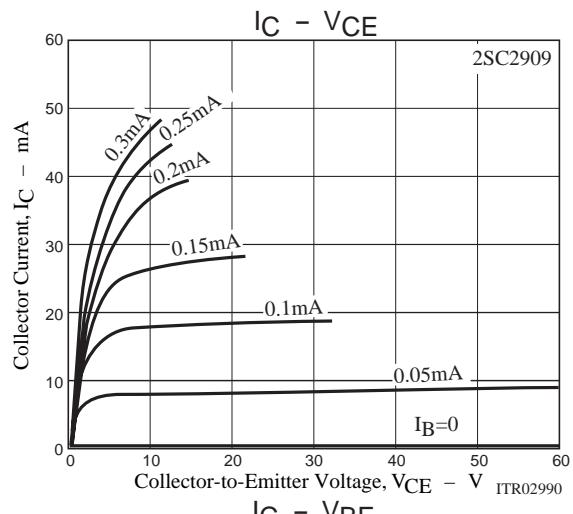
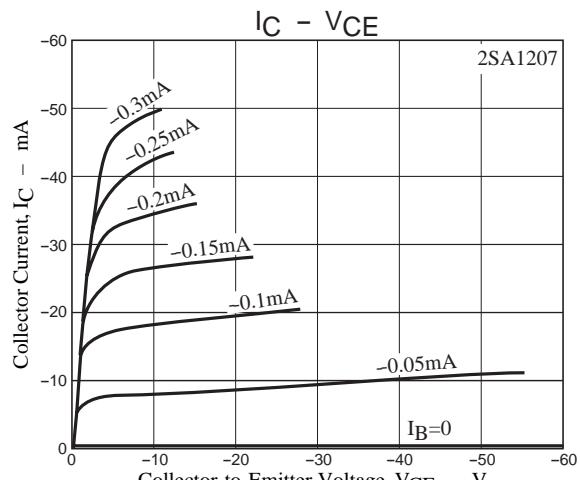
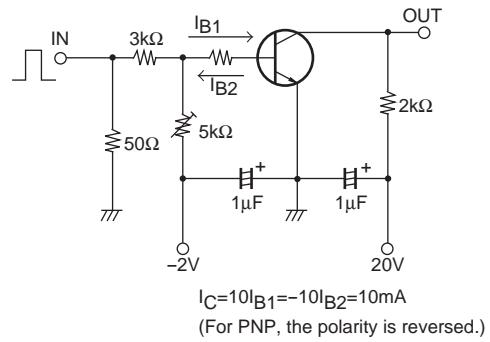
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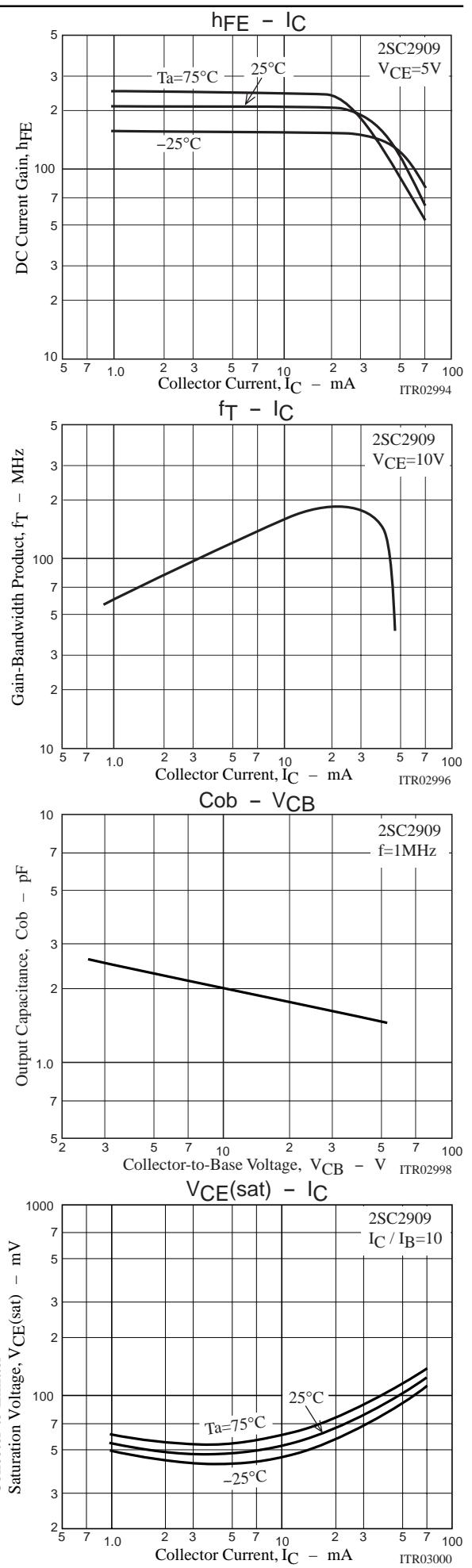
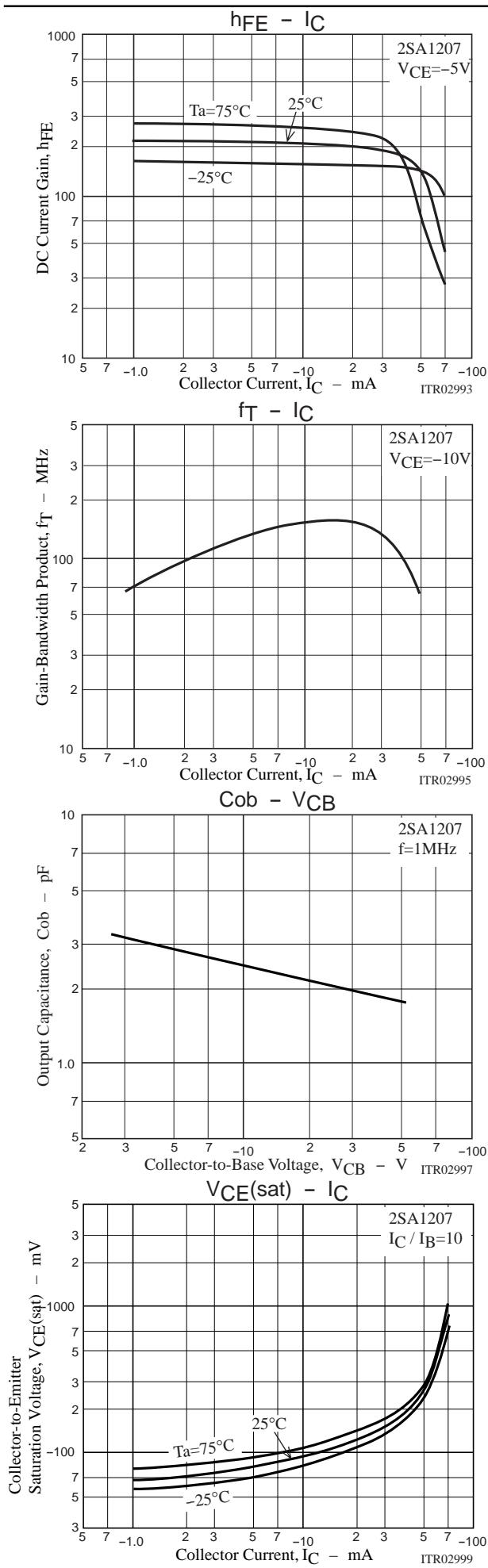
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Time	$t_{on}$	See specified Test Circuit		0.1		$\mu\text{s}$
Fall Time	$t_f$	See specified Test Circuit		0.2		$\mu\text{s}$
Storage Time	$t_{stg}$	See specified Test Circuit		1.0		$\mu\text{s}$

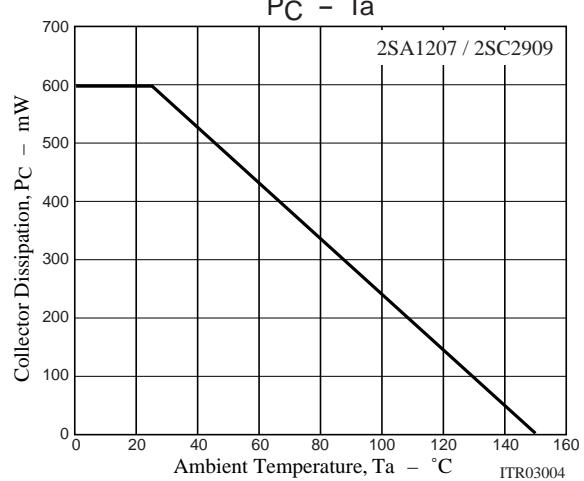
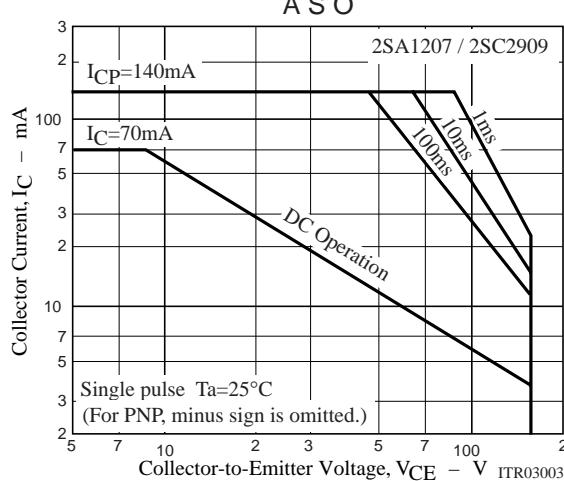
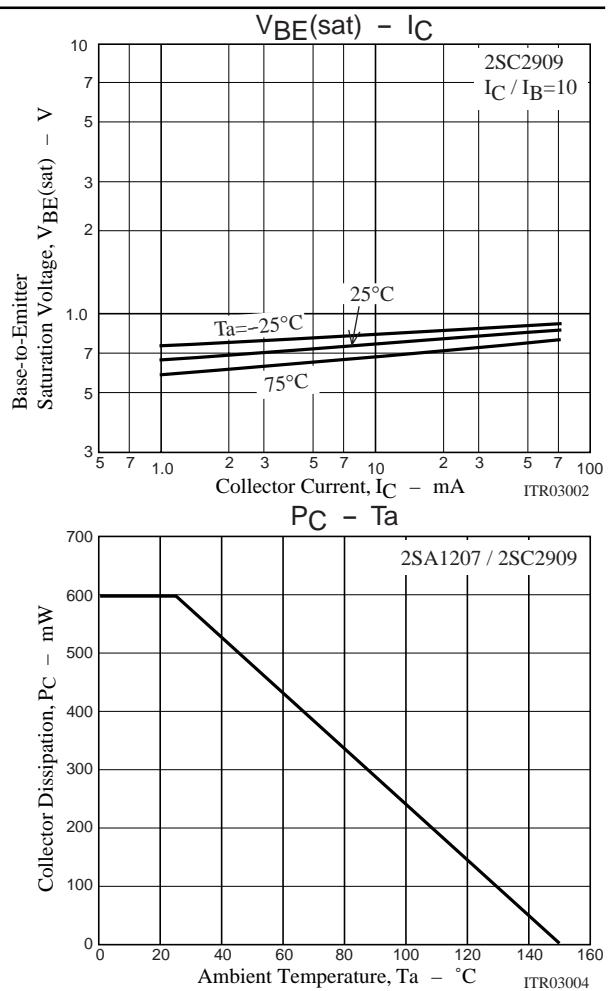
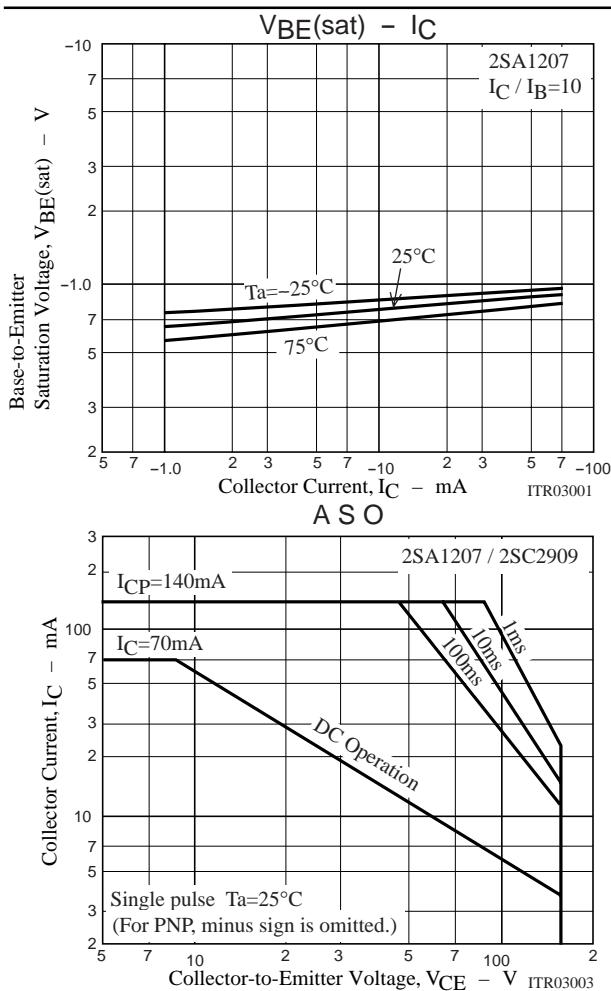
## Switching Time Test Circuit



## 2SA1207/2SC2909



## 2SA1207/2SC2909



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