



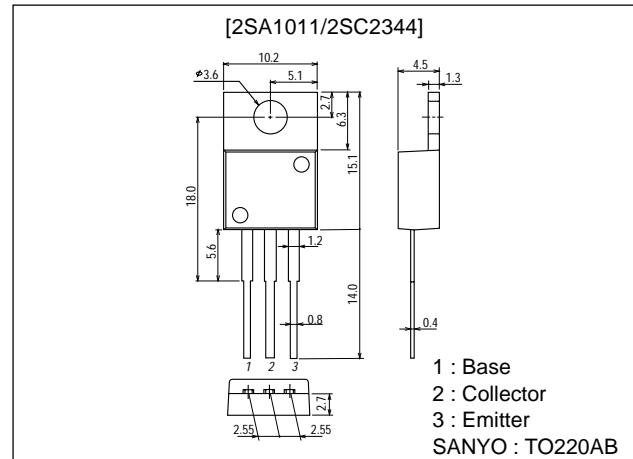
# 2SA1011/2SC2344

## High-Voltage Switching, AF Power Amp, 100W Output Predriver Applications

### Package Dimensions

unit:mm

2010C



( ) : 2SA1011

### Specifications

#### 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	$V_{EBO}$		(-)6	V
Collector Current	$I_C$		(-)1.5	A
Collector Current (Pulse)	$I_{CP}$		(-)3	A
Collector Dissipation	$P_C$	Tc=25°C	25	W
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	$I_{CBO}$	$V_{CB}=(-)120V, I_E=0$			(-)10	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)4V, I_C=0$			(-)10	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=(-)5V, I_C=(-)300mA$	60*		200*	
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10V, I_C=(-)50mA$		100		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=(-)10V, f=1MHz$		(30)		pF
Base-to-Emitter Voltage	$V_{BE}$	$V_{CE}=(-)5V, I_C=(-)10mA$		23		pF
				(-)1.5		V

\* : The 2SA1011/2SC2344 are classified by 300mA  $h_{FE}$  as follows :

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Rank	D	E
$h_{FE}$	60 to 120	100 to 200

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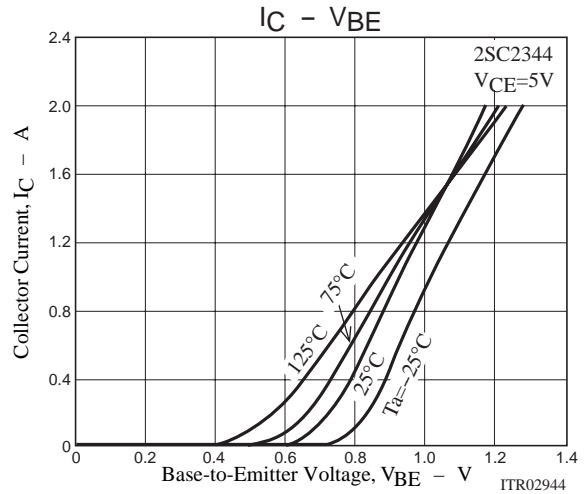
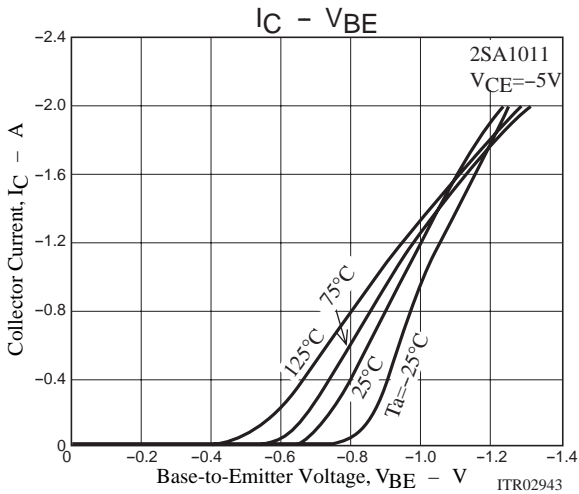
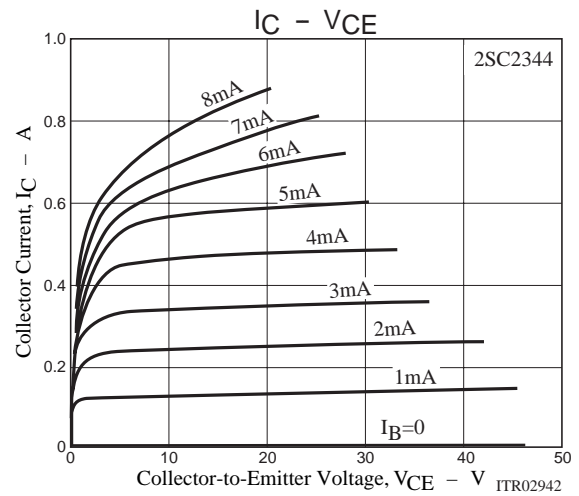
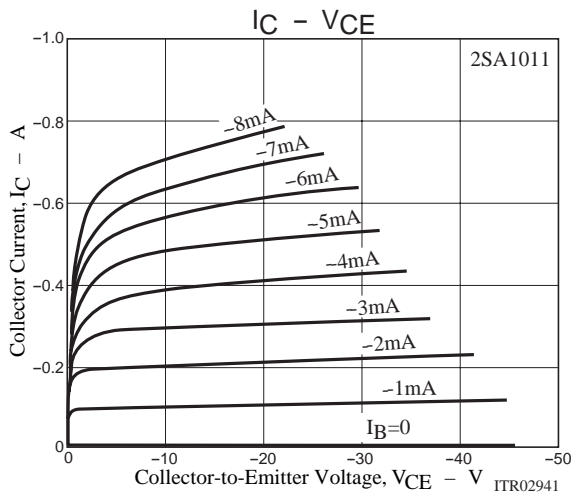
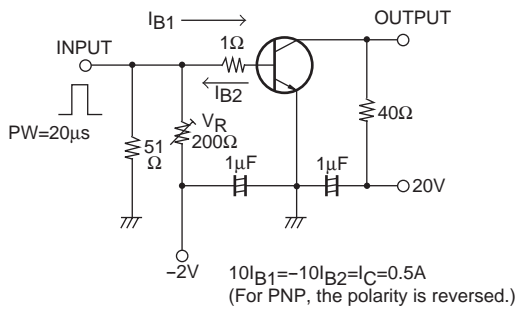
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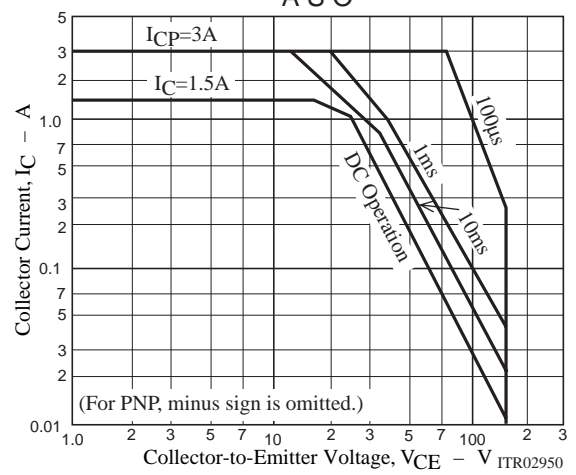
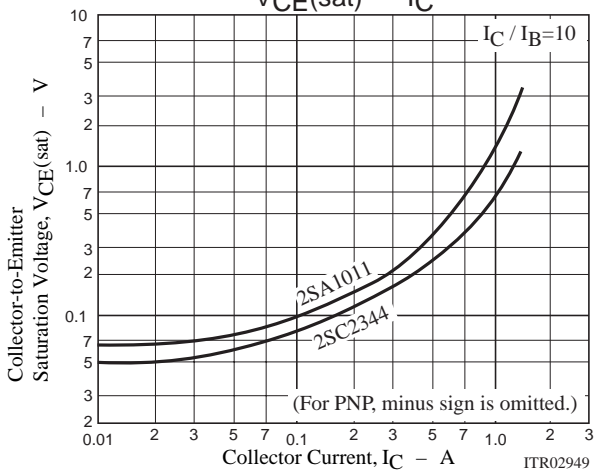
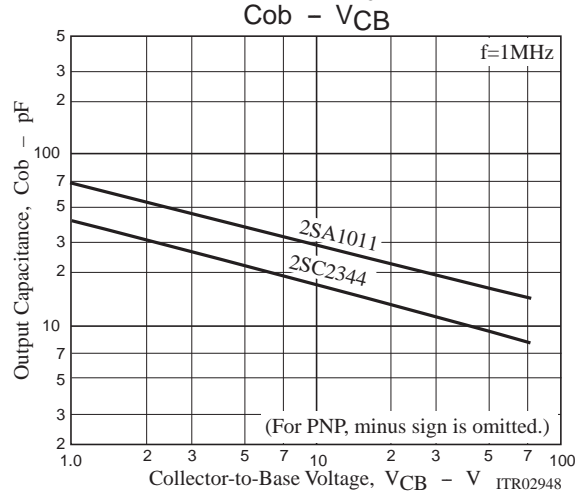
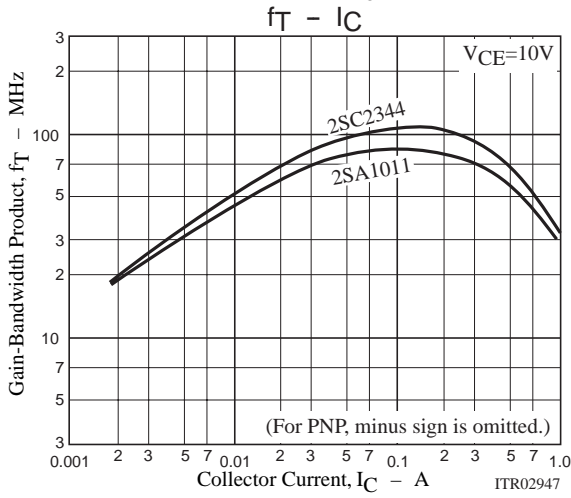
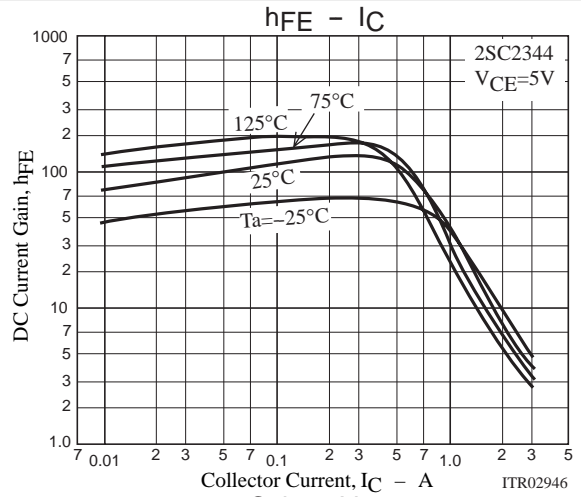
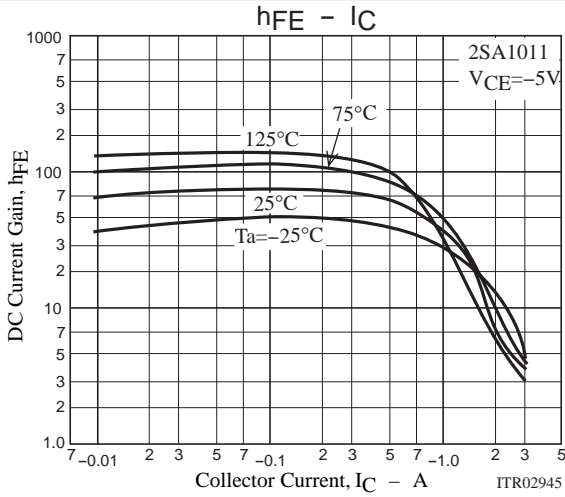
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$		(-0.5)		V
				0.3		V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(-)180			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)160			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10mA, I_C=0$	(-)6			V
Turn-ON Time	$t_{on}$	See specified Test Circuit		(0.29) 0.15		$\mu s$
Fall Time	$t_f$	See specified Test Circuit		(0.19) 0.48		$\mu s$
Storage Time	$t_{stg}$	See specified Test Circuit		(0.48) 0.81		$\mu s$

## Switching Time Test Circuit



# 2SA1011/2SC2344



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