



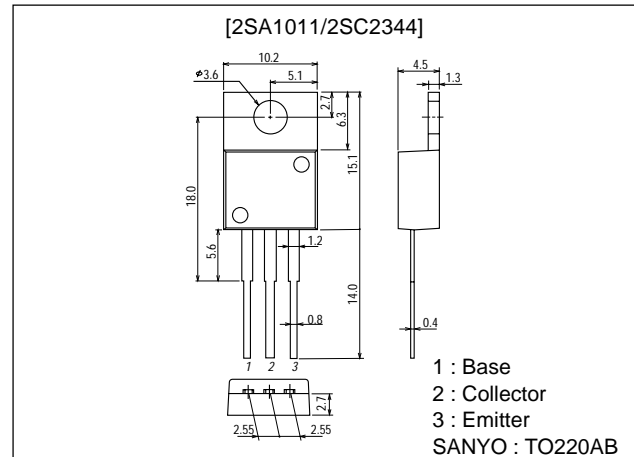
2SA1011/2SC2344

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

Package Dimensions

unit:mm

2010C



() : 2SA1011

Specifications

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

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	$T_c=25^\circ\text{C}$	25	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}	$V_{CB}=(-)120\text{V}, I_E=0$			(-)10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4\text{V}, I_C=0$			(-)10	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)5\text{V}, I_C=(-)300\text{mA}$	60*		200*	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10\text{V}, I_C=(-)50\text{mA}$		100		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		(30)		pF
Base-to-Emitter Voltage	V_{BE}	$V_{CE}=(-)5\text{V}, I_C=(-)10\text{mA}$		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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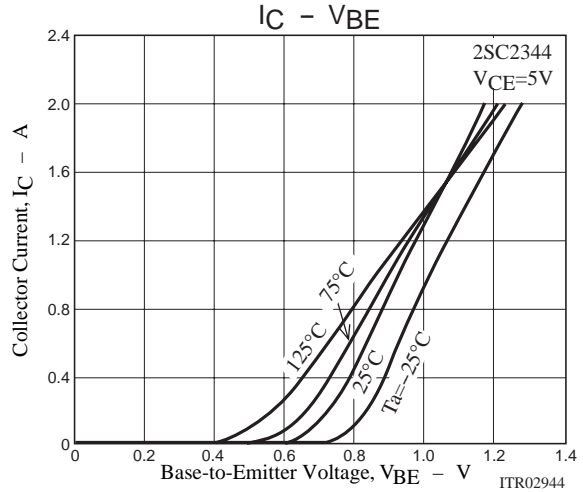
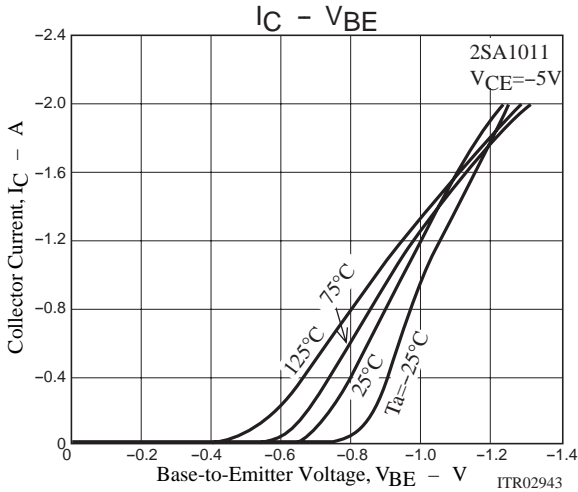
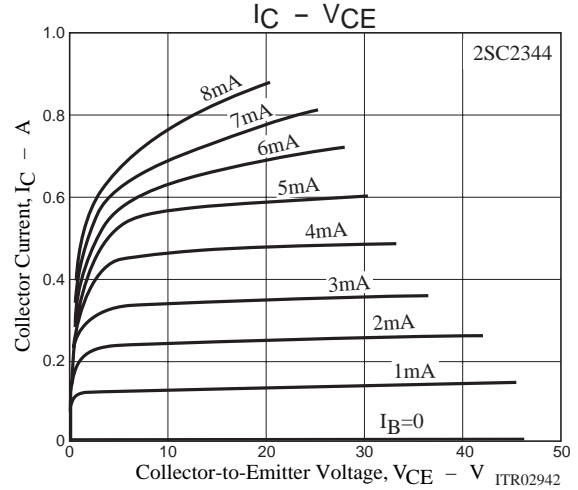
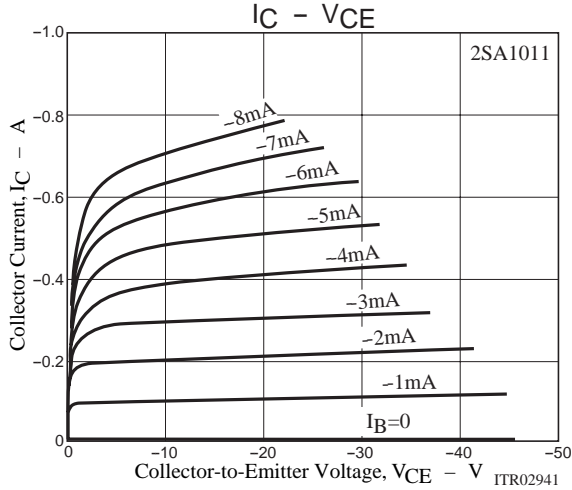
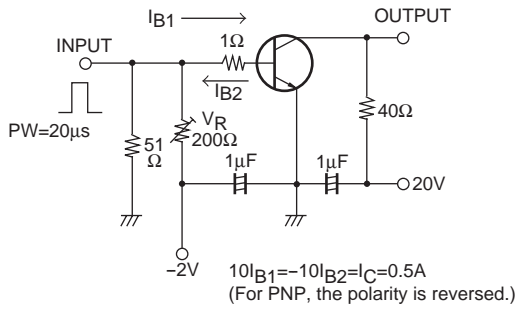
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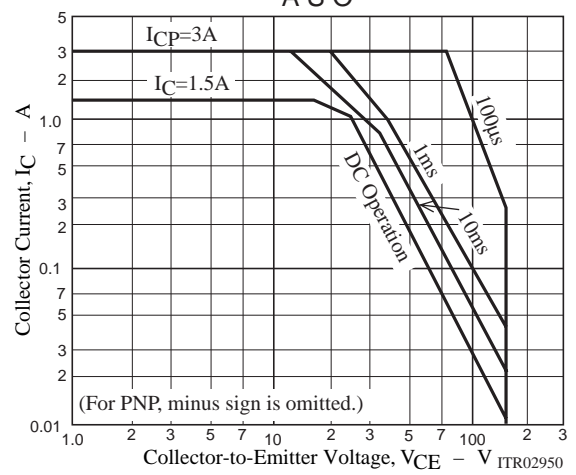
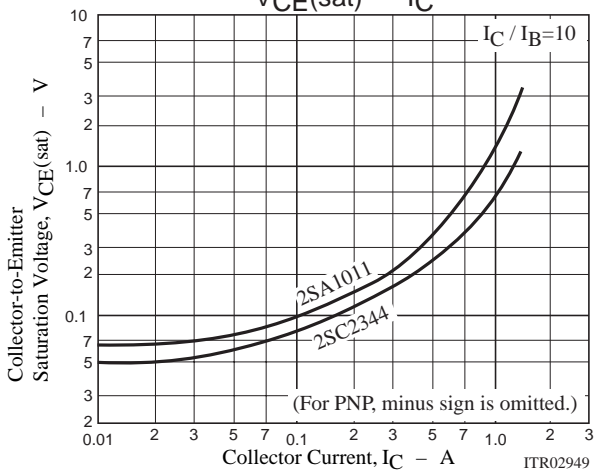
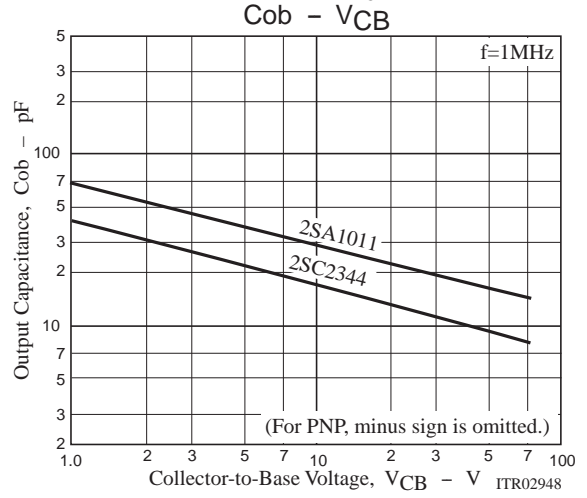
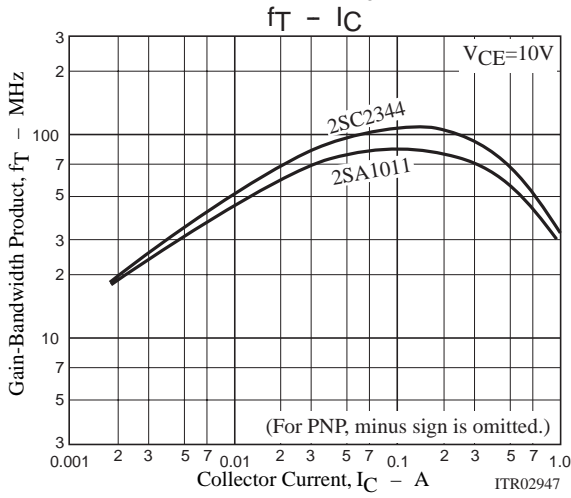
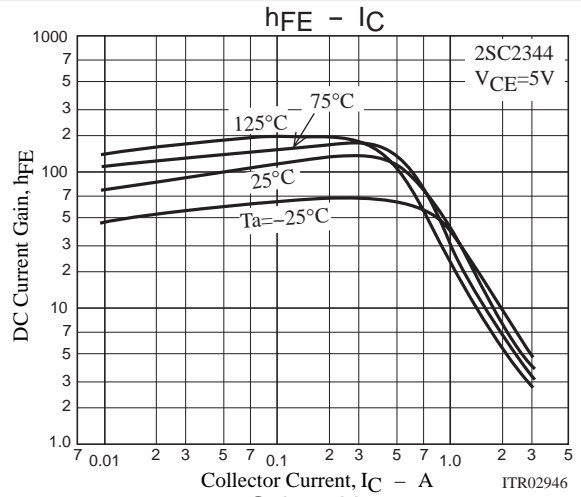
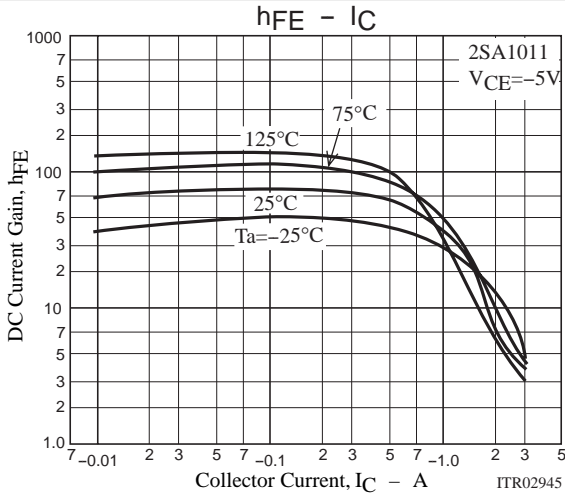
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$		(-0.5)		V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(-180)			V
Collector-to-Emitter 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		μs
Fall Time	t_f	See specified Test Circuit		(0.19) 0.48		μs
Storage Time	t_{stg}	See specified Test Circuit		(0.48) 0.81		μs

Switching Time Test Circuit



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