



SANYO Semiconductors

DATA SHEET

2SA1011P / 2SC2344P

PNP / NPN Epitaxial Planar Silicon Transistors
**High-Voltage Switching, AF Power Amp,
 100W Output Predriver Applications**

Specifications () : 2SA1011P

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	T _C =25°C	30	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-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 =0A			(-)10	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0A			(-)10	μA
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)23		pF
Base-to-Emitter Voltage	V _{BE}	V _{CE} =(-)5A, I _C =(-)10mA			(-)1.5	V
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)500mA, I _B =(-)50mA		(-0.5)0.3		V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =(-)1mA, I _E =0A	(-)180			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =(-)1mA, R _{BE} =∞	(-)160			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =(-)1mA, I _C =0A	(-)6			V

Continued on next page.

* : The 2SA1011P/2SC2344P are classified by 300mA h_{FE} as follows :

Rank	D	E
h _{FE}	60 to 120	100 to 200

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SANYO Semiconductor Co., Ltd.

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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2SA1011P / 2SC2344P

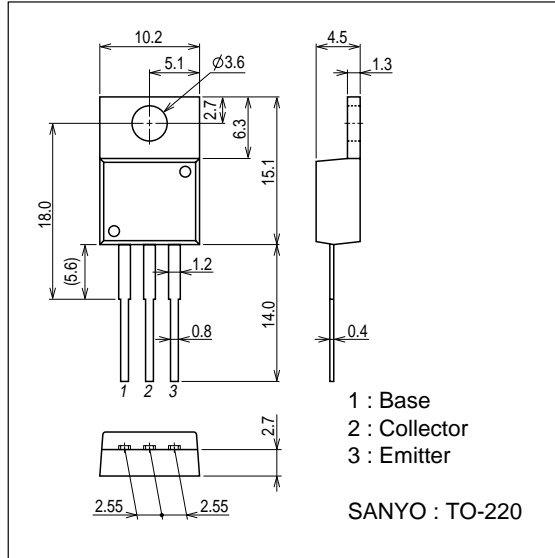
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-On Time	t_{on}	See specified Test Circuit.		(0.29)0.15		μs
Storage Time	t_{stg}	See specified Test Circuit.		(0.48)0.81		μs
Fall Time	t_f	See specified Test Circuit.		(0.19)0.48		μs

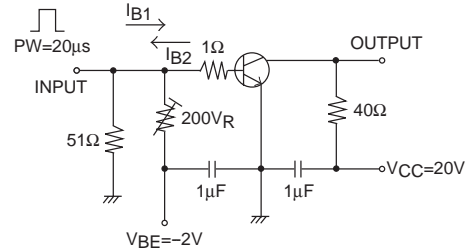
Package Dimensions

unit : mm (typ)

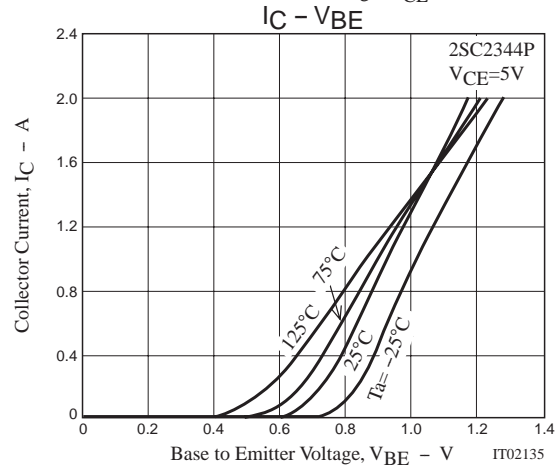
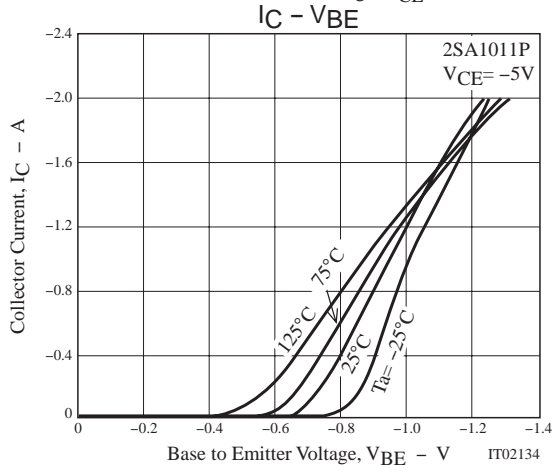
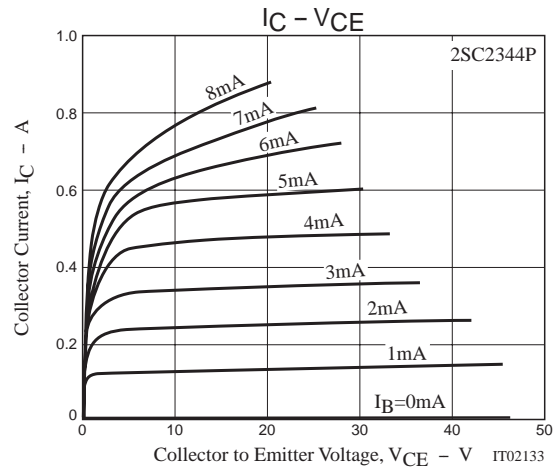
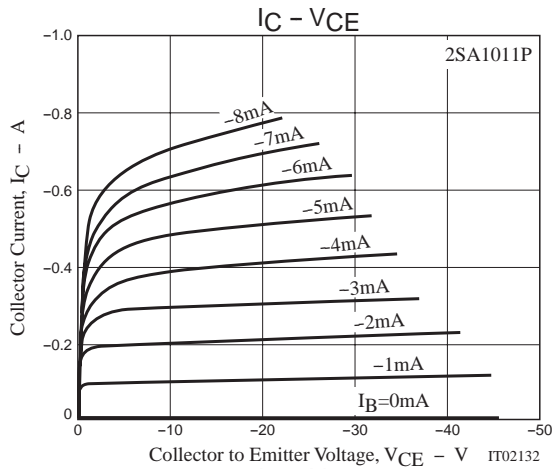
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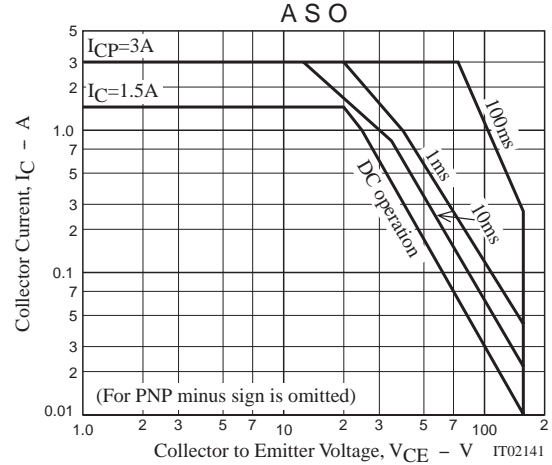
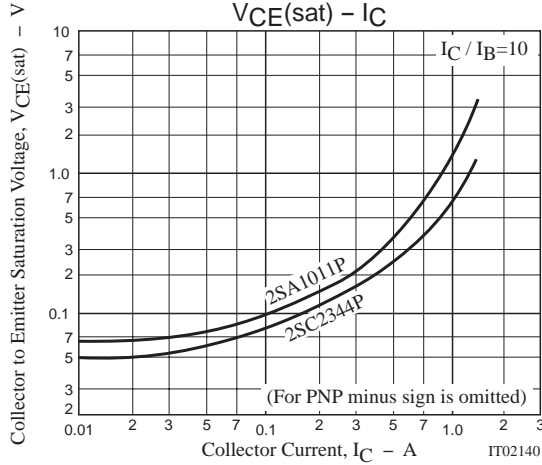
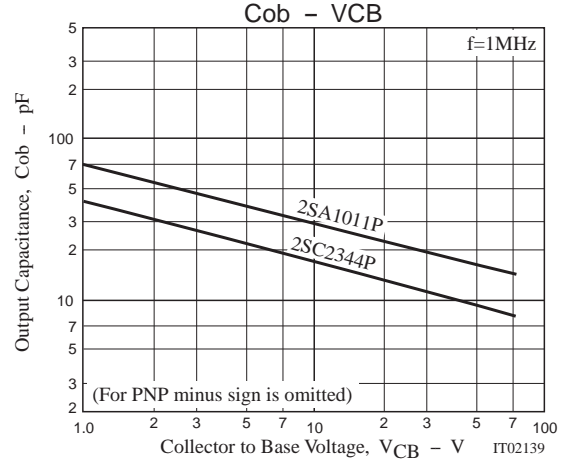
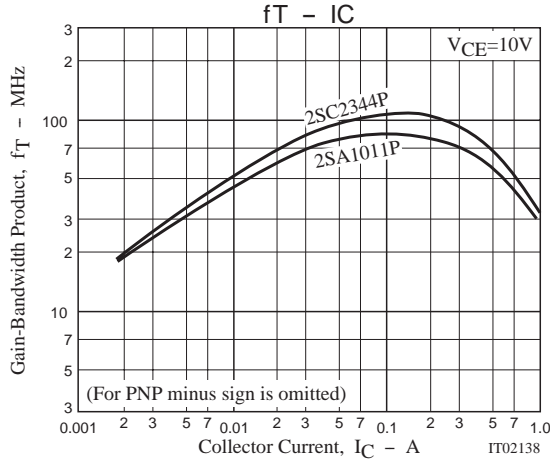
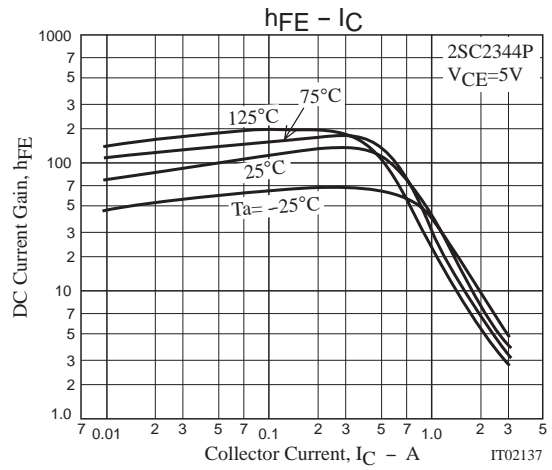
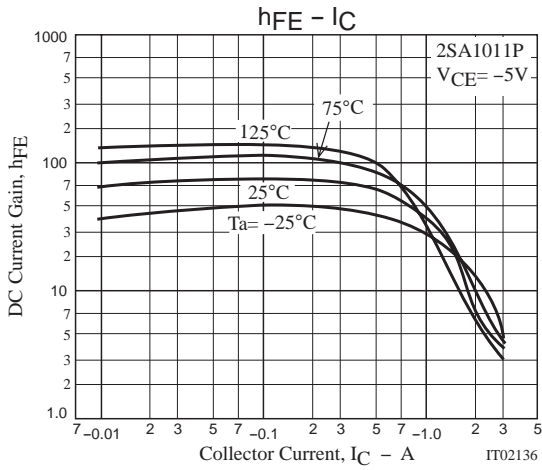
Switching Time Test Circuit



$I_C=10I_{B1}=-10I_{B2}=0.5A$
For PNP, minus sign is omitted.



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