



2SA1606/2SC4159

High-Voltage Switching, AF 100W Driver Applications

Applications

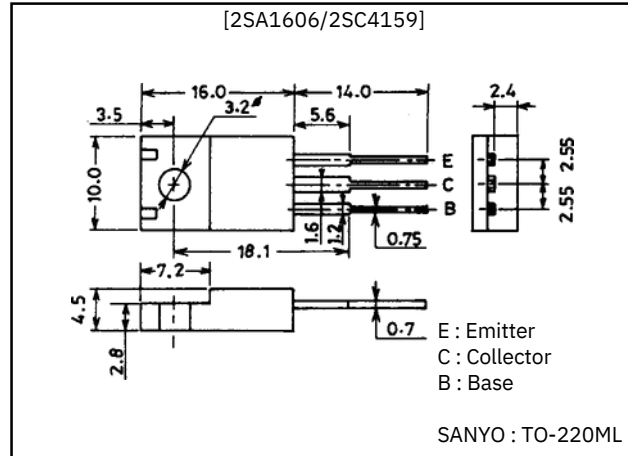
- High-voltage switching, AF power amplifier, 100W unit:mm output predrivers.

Package Dimensions

2041

Features

- Micaless package facilitating mounting.



() : 2SA1606

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V		(-)180	V
Collector-to-Emitter Voltage	CBO		(-)160	V
Emitter-to-Base Voltage	CEO		(-)6	V
Collector Current	V		(-)1.5	A
Collector Current (Pulse)	EBO		(-)3	A
Collector Dissipation	I	Tc=25°C	15	W
Junction Temperature	I		150	°
Storage Temperature	CP		-55 to +150	C

Electrical Characteristics at Ta = 25°C

Parameter	Tstg Symbol	Conditions	Ratings			Uni
			min	typ	max	
Collector Cutoff Current	I	V			(-)10	t μA
Emitter Cutoff Current	CBO	CB=(-)120V, IE=0			(-)10	μA
DC Current Gain	I	V	60*		200*	
Gain-Bandwidth Product	EBO	EB=(-)4V, IC=0		100		MHz
Output Capacitance	h	V		(30)23		pF
Base-to-Emitter Voltage	FE	CE=(-)5V, IC=(-)300mA			(-)1.5	V
	f	V				
	T	CE=(-)10V, IC=(-)50mA				

Continued on next page.

* : The 2SA1606/2SC4159 are classified by 300mA hFE as follows :

60	D	120	100	E	200
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ob CB=(-)10V, f=1MHz
V V
BE CE=(-)5V, IC=(-)10mA

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SANYO Electric Co., Ltd. Semiconductor Business Headquarters

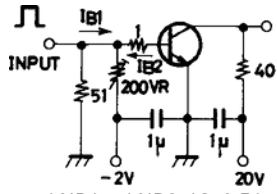
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2SA1606/2SC4159

Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	V	CE(sat) $I_C = (-)500\text{mA}$, $I_B = (-)50\text{mA}$		(-0.5)		V
Collector-to-Base Breakdown Voltage	V	(BR)CBO $I_C = (-)1\text{mA}$, $I_E = 0$	(-180)		0.3	V
Collector-to-Emitter Breakdown Voltage	V	(BR)CEO $I_C = (-)1\text{mA}$, $R_{BE} = \infty$	(-160)			V
Emitter-to-Base Breakdown Voltage	V	(BR)EBO $I_E = (-)1\text{mA}$, $I_C = 0$	(-6)			V
Turn-ON Time	t	See specified test circuit.		(0.29)		μs
Fall Time	t	See specified test circuit.		(0.15)		μs
Storage Time	t	See specified test circuit.		(0.48)		μs
		† See specified test circuit.				μs
		‡ See specified test circuit.				μs
		§ See specified test circuit.				μs

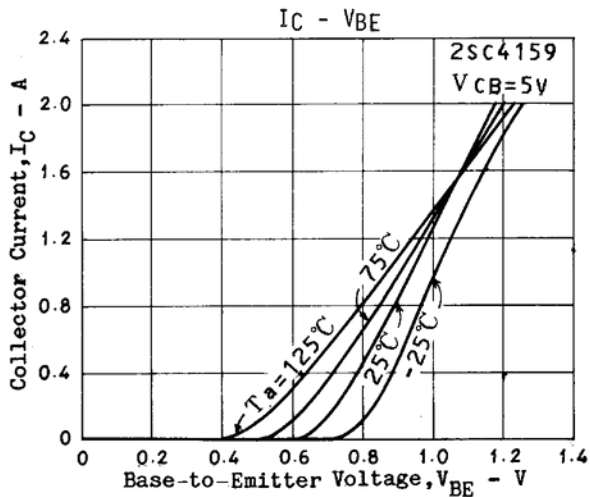
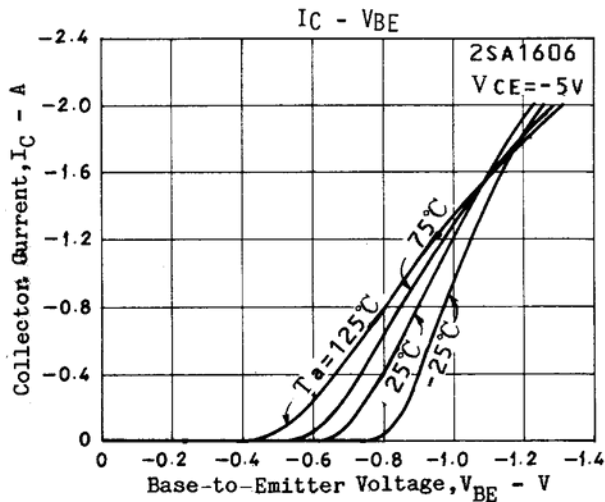
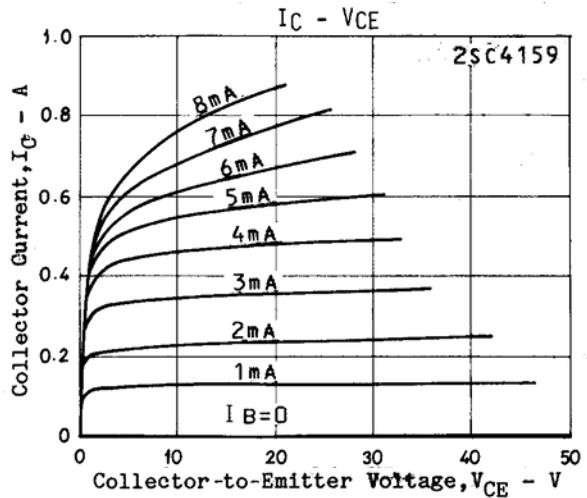
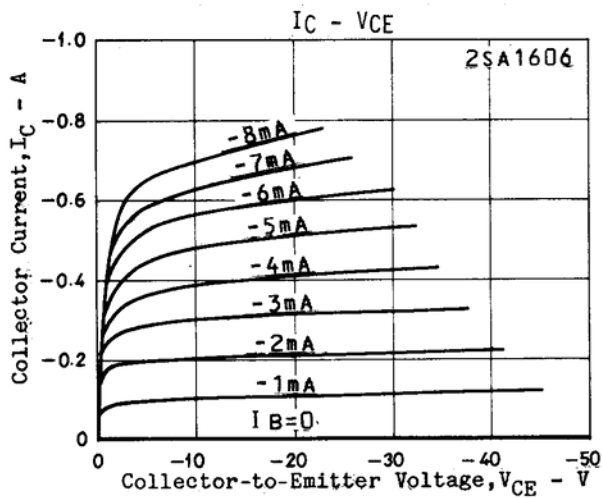
Switching Time Test Circuit



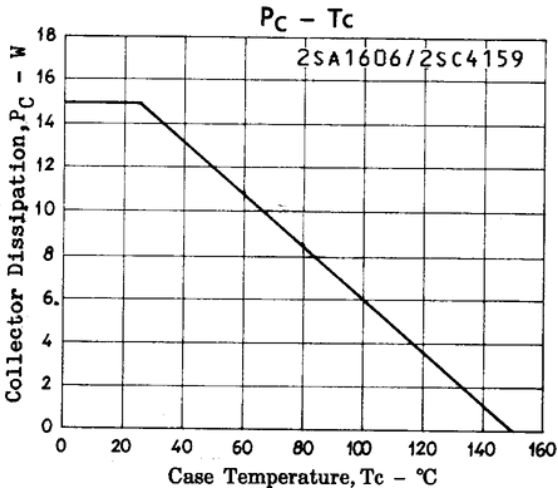
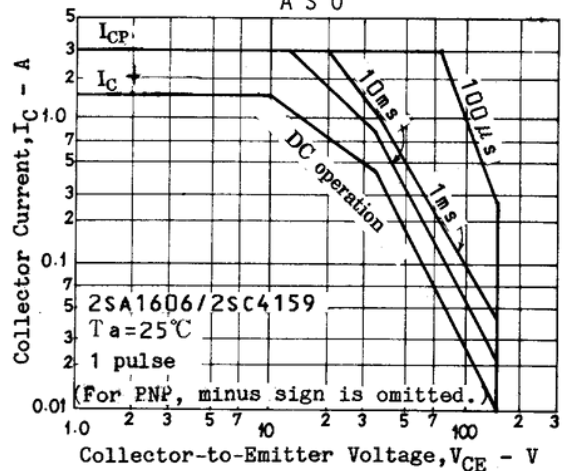
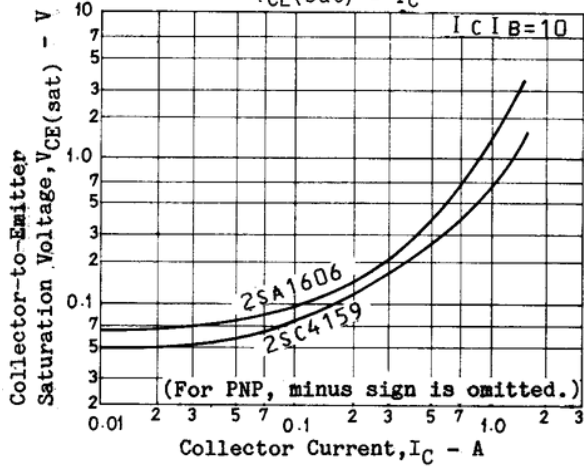
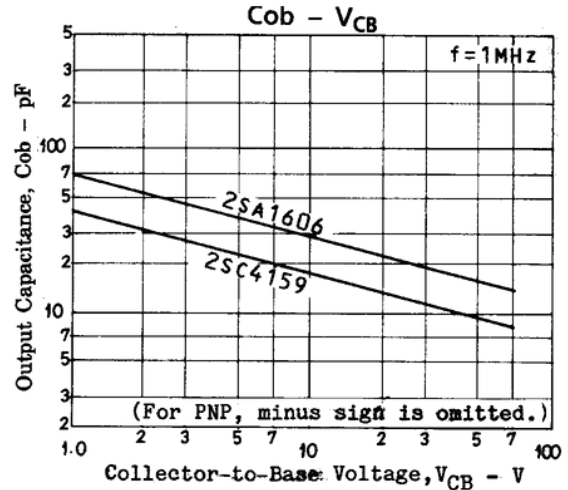
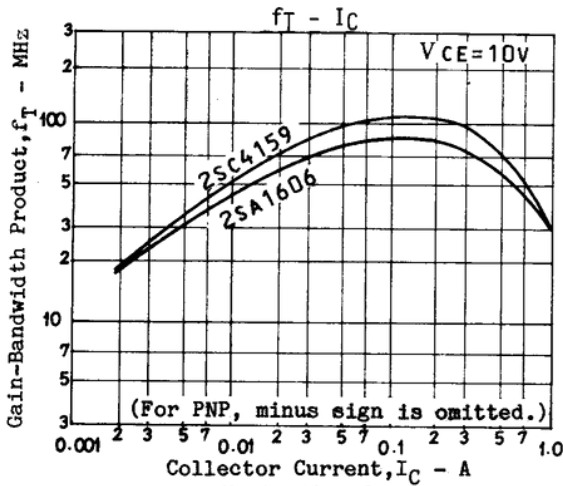
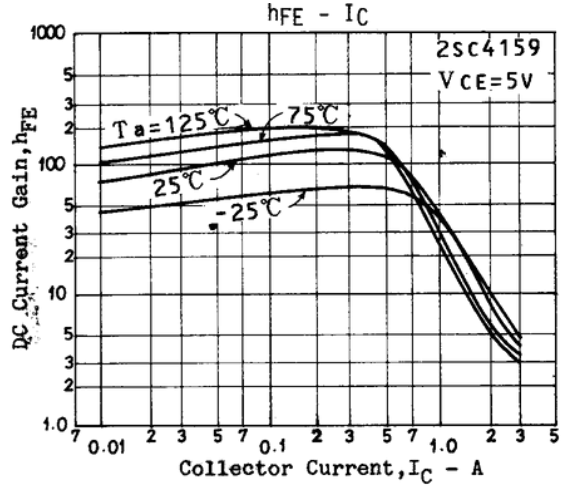
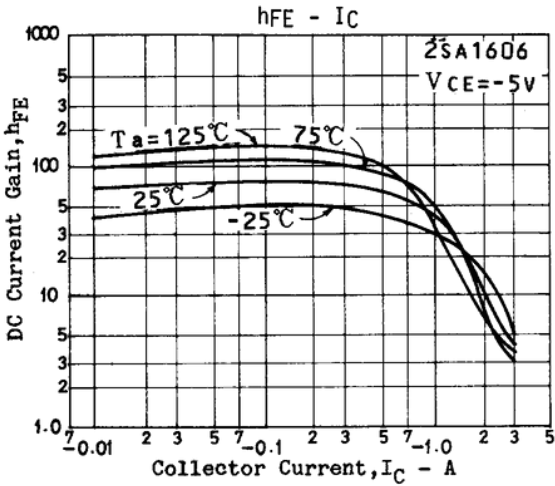
$10I_{B1} = -10I_{B2} = I_C = 0.5\text{A}$
 $PW = 20\mu\text{s}$

For PNP, the polarity is reversed.

Unit (resistance : Ω , capacitance : F)



2SA1606/2SC4159



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