

SANYO

No.2535

2SA1606/2SC4159

PNP/NPN Epitaxial Planar Silicon Transistors

160V/1.5A, AF 100W Driver Applications**Applications**

- High-voltage switching, AF power amp, 100W output predrivers

Features

- Micaless package facilitating mounting

(): 2SA1606

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

			unit
Collector-to-Base Voltage	V_{CB0}	(-)180	V
Collector-to-Emitter Voltage	V_{CE0}	(-)160	V
Emitter-to-Base Voltage	V_{EB0}	(-)6	V
Collector Current	I_C	(-)1.5	A
Collector Current (Pulse)	I_{CP}	(-)3	A
Collector Dissipation	P_C	15	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

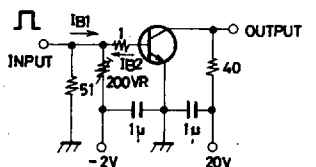
 $T_c=25^\circ\text{C}$ **Electrical Characteristics at $T_a=25^\circ\text{C}$**

			min	typ	max	unit
Collector Cutoff Current	I_{CB0}	$V_{CB}=(-)120\text{V}, I_E=0$			(-)10	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=(-)4\text{V}, I_C=0$			(-)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)23			pF
Base to Emitter Voltage	V_{BE}	$V_{CE}=(-)5\text{V}, I_C=(-)10\text{mA}$			(-)1.5	V
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500\text{mA}, I_E=(-)50\text{mA}$	(-0.5)			V
			0.3			V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1\text{mA}, I_E=0$	(-)180			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1\text{mA}, R_{BE}=\infty$	(-)160			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)1\text{mA}, I_C=0$	(-)6			V

Continued on next page.

*: The 2SA1606/2SC4159 are classified by 300mA h_{FE} as follows:

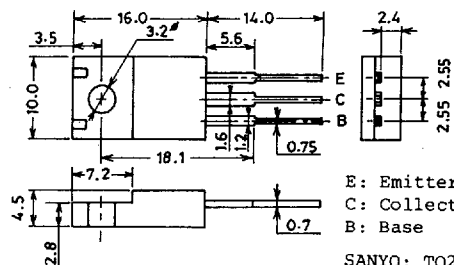
60	D	120	100	E	200
----	---	-----	-----	---	-----

Switching Test Circuit

$$10I_{B1} = -10I_{B2} = I_C = 0.5\text{A}$$

$$P_W = 20\mu\text{s}$$

For PNP, the polarity is reversed.

Unit (Resistance : Ω , Capacitance : F)**Package Dimensions 2041
(unit:mm)**E: Emitter
C: Collector
B: Base

SANYO: TO220ML

SANYO Electric Co., Ltd. Semiconductor Business Headquarters

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

Continued from preceding page.

			min	typ	max	unit
Turn-on Time	t_{on}	See specified Test Circuit.		(0.29)		μs
				0.15		μs
Fall Time	t_f	"		(0.19)		μs
				0.48		μs
Storage Time	t_{stg}	"		(0.48)		μs
				0.81		μs

