

**SANYO**

No.677D

**2SB816/2SD1046**Silicon PNP/NPN Planar Type Transistor  
FOR LF POWER AMP, 50W OUTPUT,  
LARGE POWER SWITCHING**Features**

- Capable of being mounted easily because of one-point fixing type plastic molded package (Interchangeable with TO-3)
- Wide ASO because of built-in ballast resistance
- Good dependence of  $f_T$  on current and good HF characteristic

( ): 2SB816

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

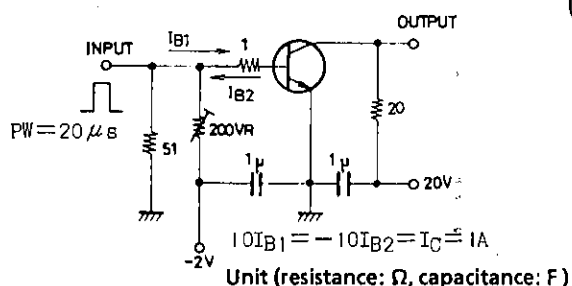
			unit
Collector-to-Base Voltage	$V_{CB0}$	(-)150	V
Collector-to-Emitter Voltage	$V_{CE0}$	(-)120	V
Emitter-to-Base Voltage	$V_{EB0}$	(-)6	V
Collector Current	$I_C$	(-)8	A
Peak Collector Current	$i_{cp}$	(-)12	A
Collector Dissipation	$P_C$	80	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 to +150	$^\circ\text{C}$

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

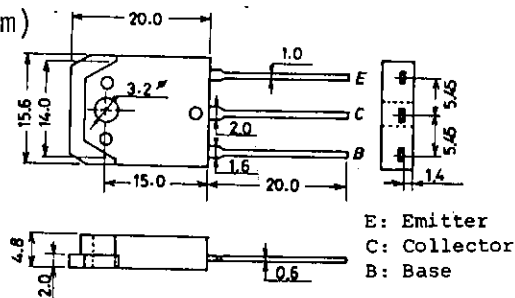
			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=(-)80\text{V}, I_E=0$			(-)0.1	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)4\text{V}, I_C=0$			(-)0.1	mA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=(-)5\text{V}, I_C=(-)1\text{A}$	60*		200*	
	$h_{FE}(2)$	$V_{CE}=(-)5\text{V}, I_C=(-)5\text{A}$	20			
Gain Bandwidth Product	$f_T$	$V_{CE}=(-)5\text{V}, I_C=(-)1\text{A}$		15		MHz
Output Capacitance	$c_{ob}$	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		(220)		pF
				160		
Base to Emitter Voltage	$V_{BE}$	$V_{CE}=(-)5\text{V}, I_C=(-)1\text{A}$			1.5	V
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)5\text{A}, I_B=(-)0.5\text{A}$		1.0	2.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)5\text{mA}, I_E=0$	(-)150			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)5\text{mA}, R_{BE}=\infty$	(-)120			V
		$I_C=(-)50\text{mA}, R_{BE}=\infty$	(-)120			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)5\text{mA}, I_C=0$	(-)6			V
Turn-on Time	$t_{on}$	At specified	(0.22)	0.22		$\mu\text{s}$
Fall Time	$t_f$	test circuit	(0.37)	1.02		$\mu\text{s}$
Storage Time	$t_{stg}$		(0.93)	6.66		$\mu\text{s}$

\* The 2SB816/2SD1046 are classified by 1A  $h_{FE}$  as follows:

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

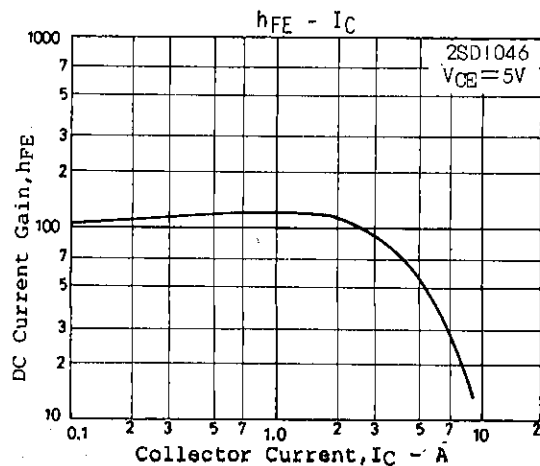
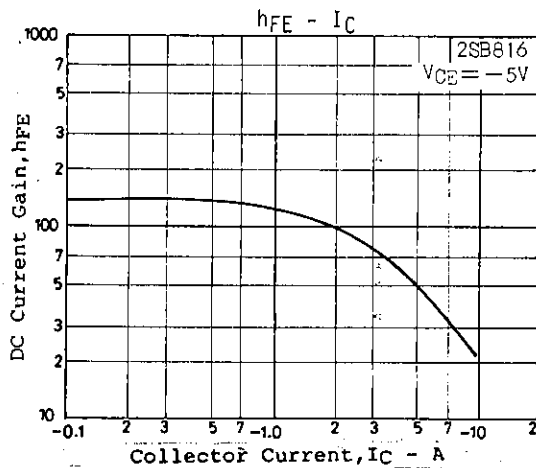
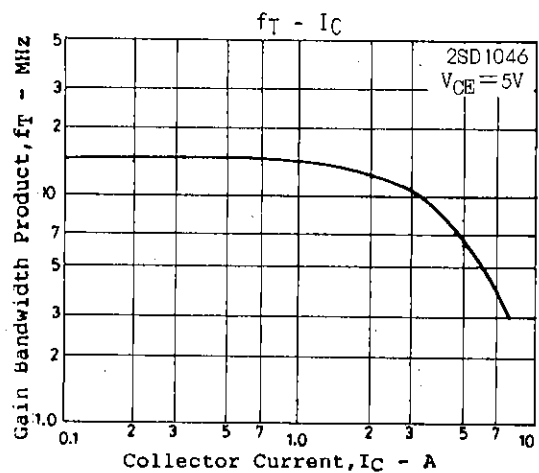
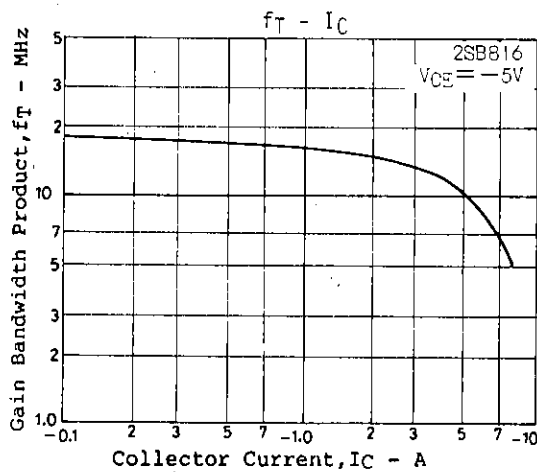
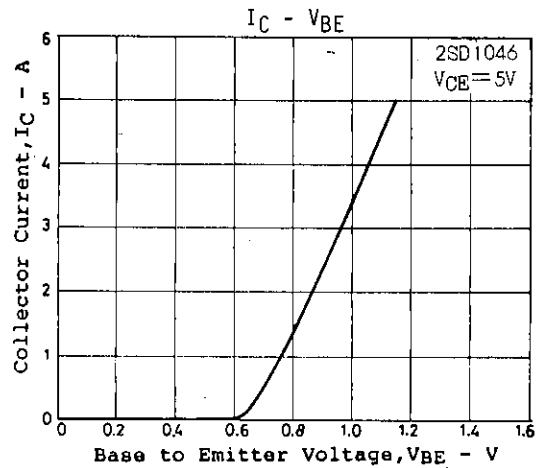
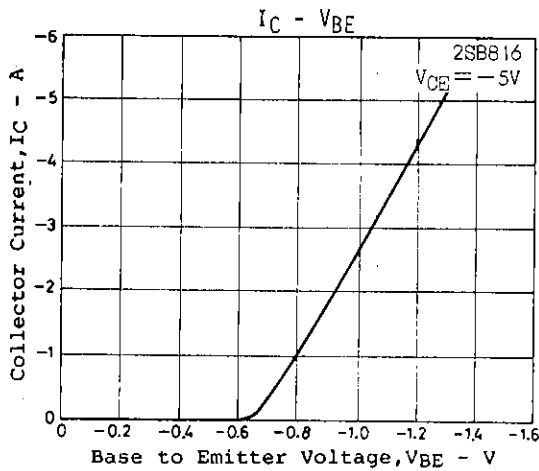
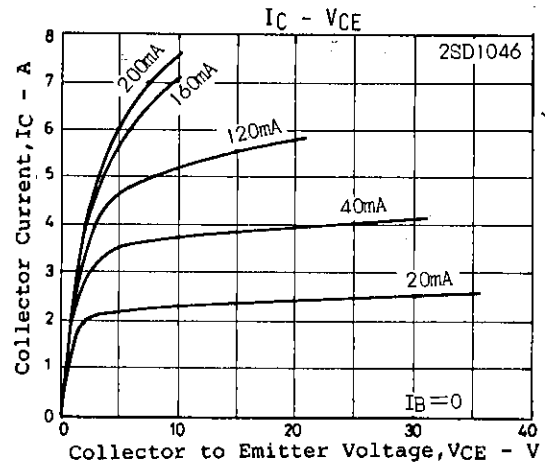
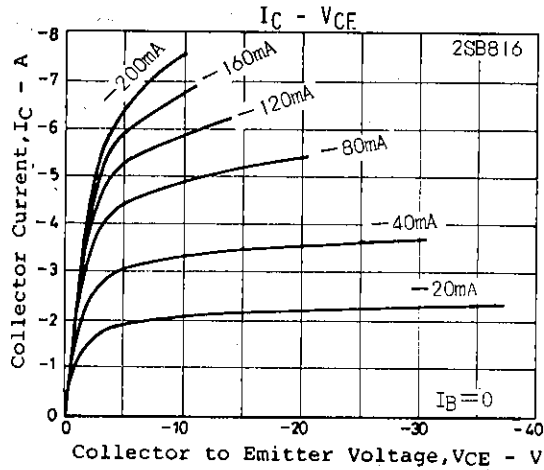
**Switching Time Test Circuit****Package Dimensions 2022**

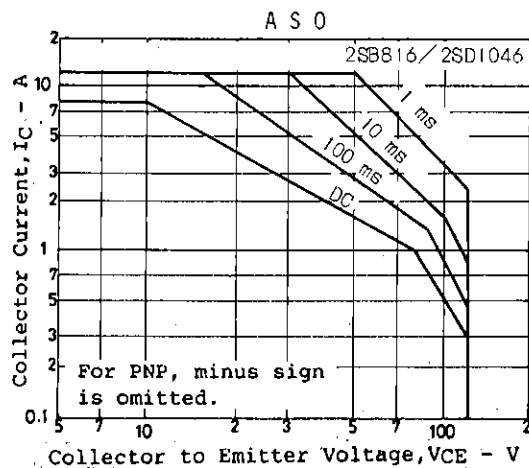
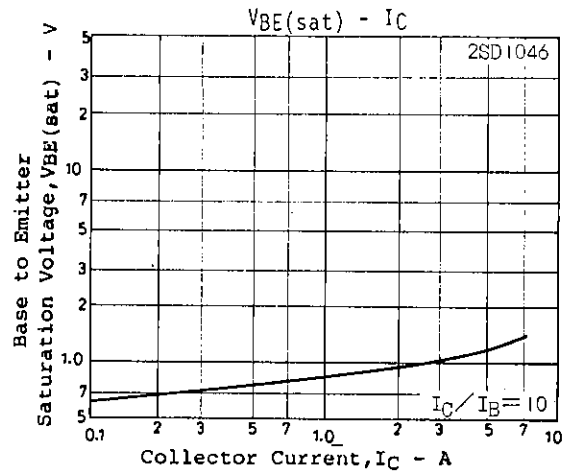
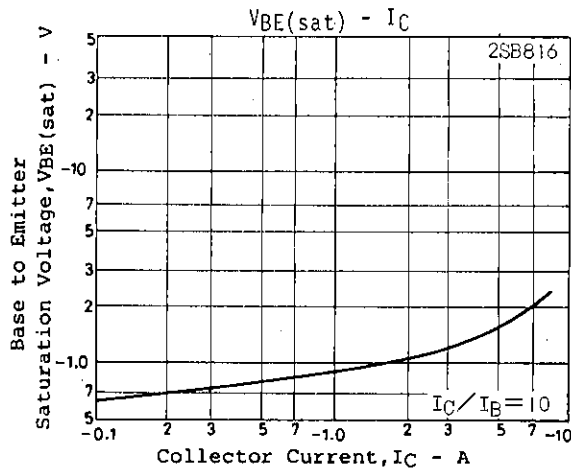
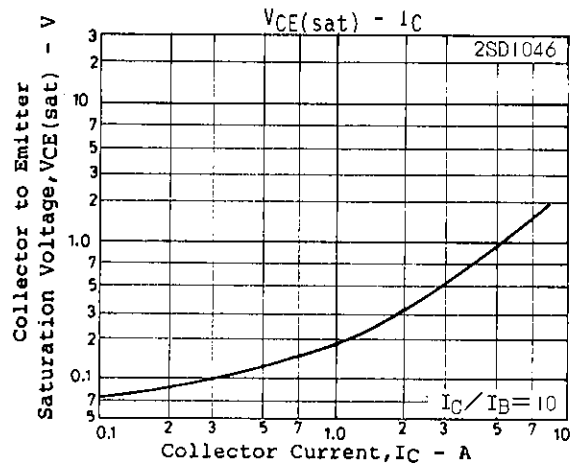
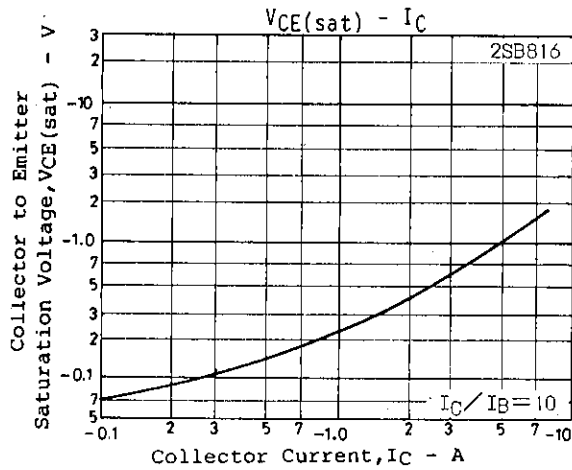
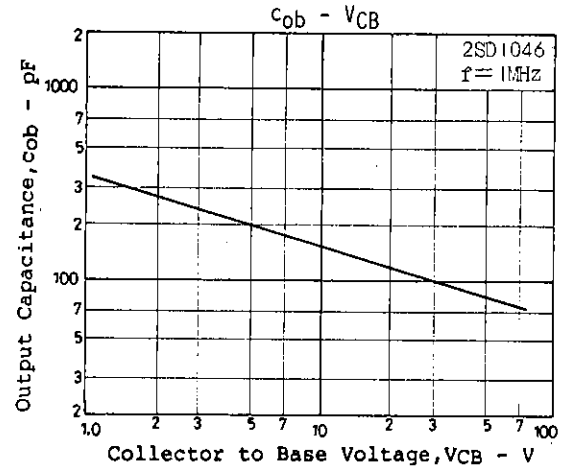
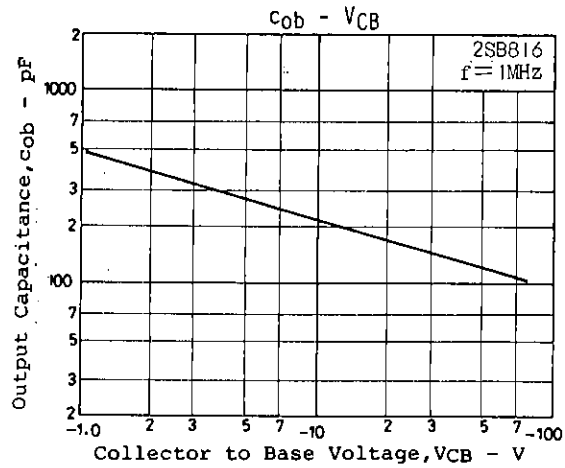
(unit:mm)



**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**  
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

4017KI/6284KI, MT No.677-1/4





- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
  - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
  - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.