

SANYO	No.680F	2SB817/2SD1047
	2SB817 : PNP Epitaxial Planar Silicon Transistor 2SD1047 : NPN Triple Diffused Planar Silicon Transistor 140V/12A, AF 60W Output Applications	

Features

- Capable of being mounted easily because of one-point fixing type plastic molded package (Interchangeable with TO-3).
- Wide ASO because of on-chip ballast resistance.
- Good dependence of f_T on current and excellent high frequency response.

The descriptions in parentheses are for the 2SB817 only ; other descriptions than those in parentheses are common to the 2SB 817 and 2SD1047.

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

			unit
Collector-to-Base Voltage	V_{CB0}	(-) 160	V
Collector-to-Emitter Voltage	V_{CEO}	(-) 140	V
Emitter-to-Base Voltage	V_{EBO}	(-) 6	V
Collector Current	I_C	(-) 12	A
Collector Current (Pulse)	I_{CP}	(-) 15	A
Collector Dissipation	P_C	100	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to $+150$	$^\circ\text{C}$

$T_c = 25^\circ\text{C}$

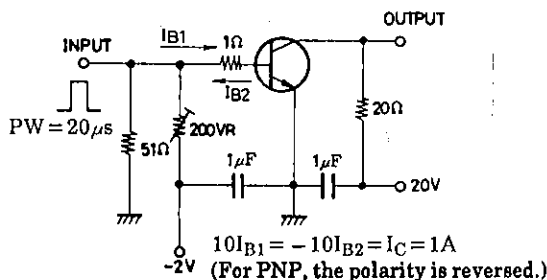
Electrical Characteristics at $T_a = 25^\circ\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I_{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^*	
	$h_{FE(2)}$	$V_{CE} = (-)5\text{V}, I_C = (-)6\text{A}$	20			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)5\text{V}, I_C = (-)1\text{A}$		15		MHz
Output Capacitance	C_{ob}	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(300) 210		pF
Base-to-Emitter Voltage	V_{BE}	$V_{CE} = (-)5\text{V}, I_C = (-)1\text{A}$			1.5	V
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)5\text{A}, I_B = (-)0.5\text{A}$		(1.1) 0.6	2.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)5\text{mA}, I_E = 0$	(-) 160			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)5\text{mA}, R_{BE} = \infty$	(-) 140			V
		$I_C = (-)50\text{mA}, R_{BE} = \infty$	(-) 140			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)5\text{mA}, I_C = 0$	(-) 6			V
Turn-ON Time	t_{on}	See specified Test Circuit.	(0.25) 0.26			μs
Fall Time	t_f	"	(0.53) 0.68			μs
Storage Time	t_{stg}	"	(1.61) 6.88			μs

* : The 2SB817/2SD1047 are classified by 1A h_{FE} as follows.

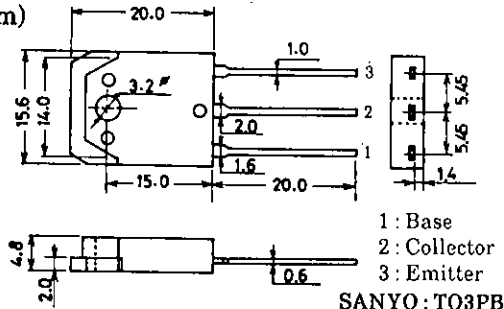
60	D	120	100	E	200
----	---	-----	-----	---	-----

Switching Time Test Circuit



Package Dimensions 2022A

(unit : mm)

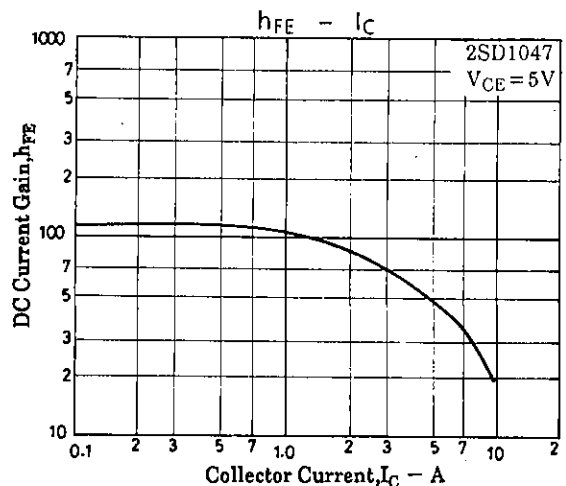
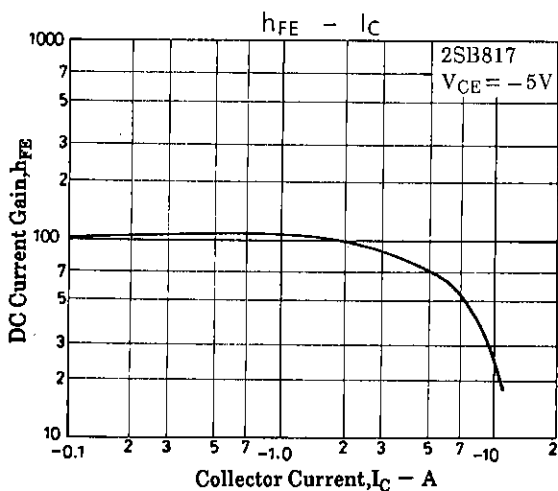
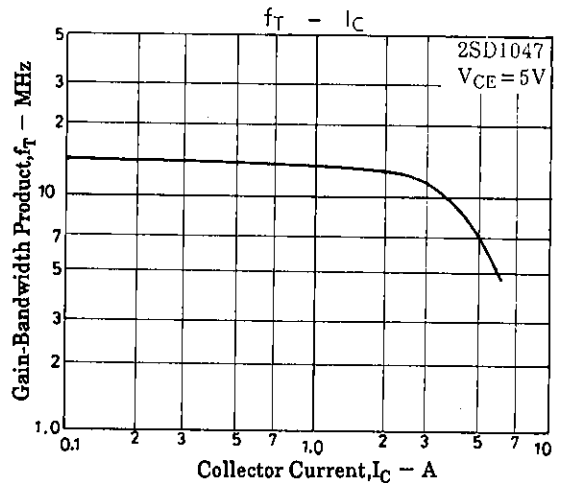
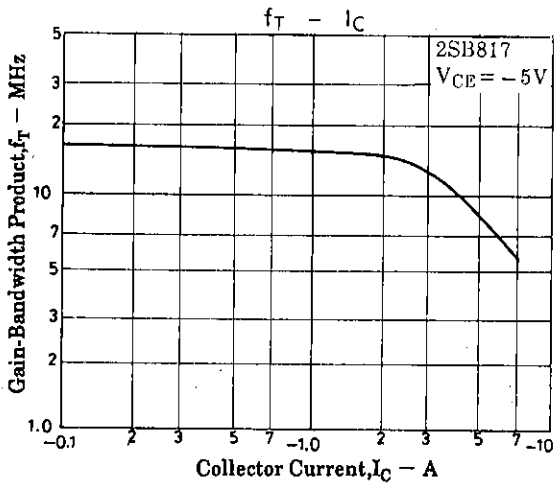
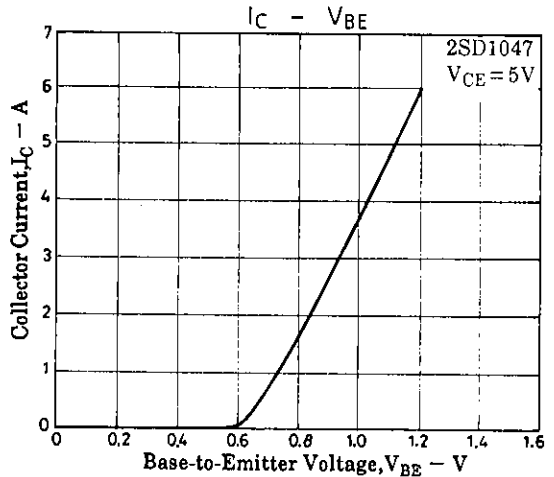
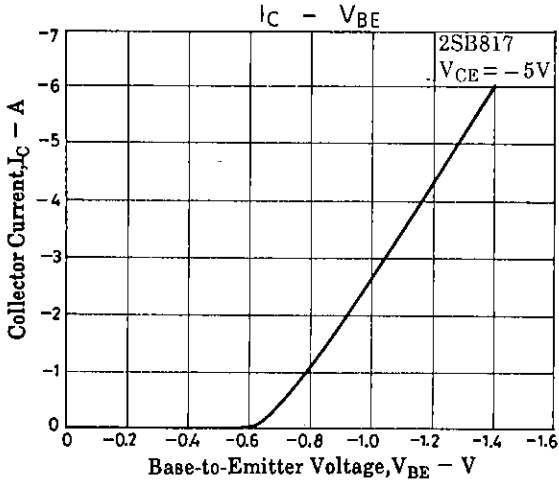
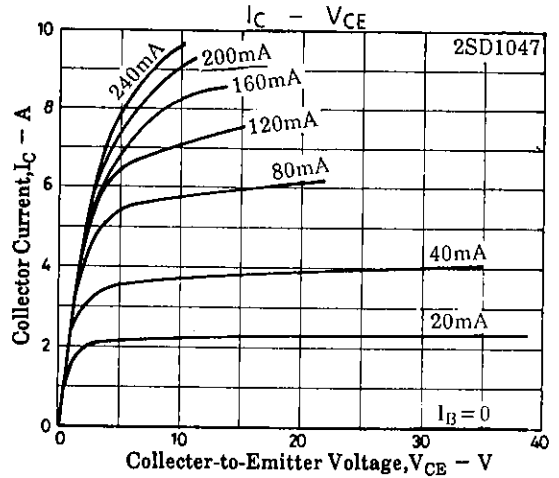
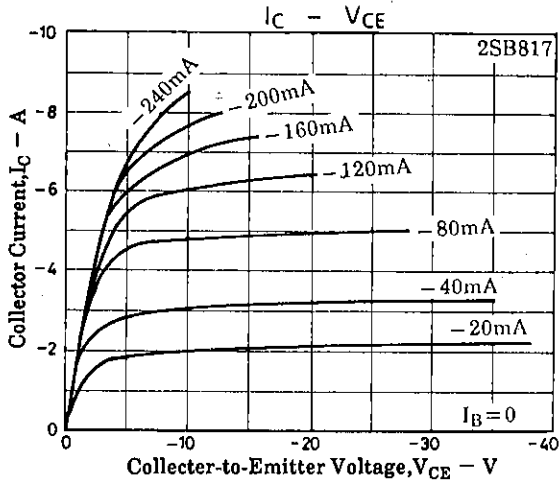


SANYO: TO3PB

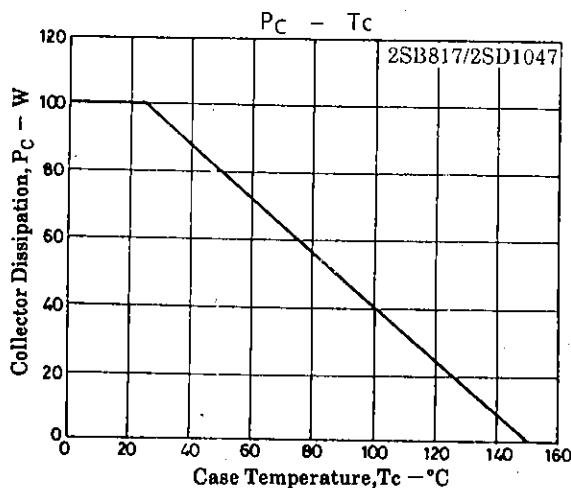
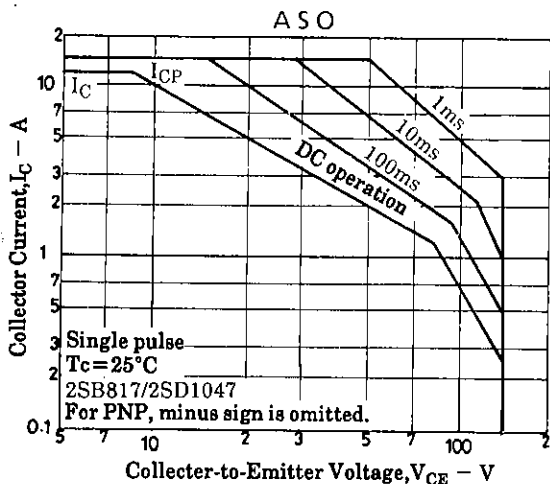
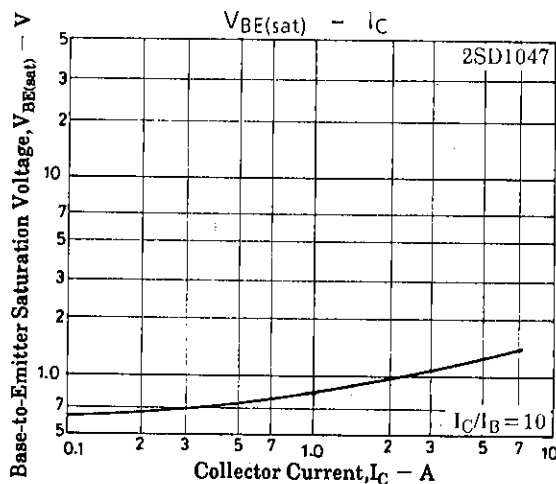
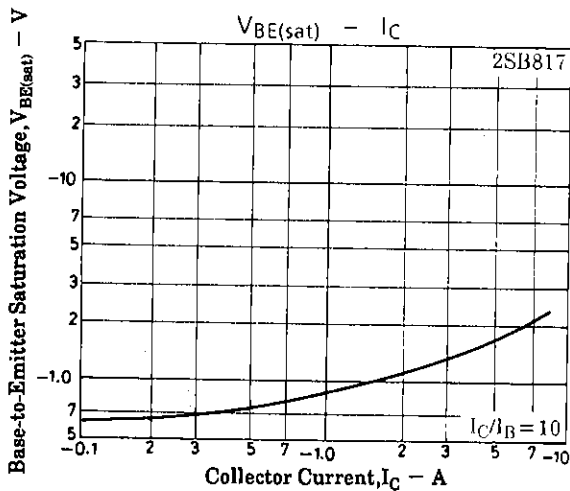
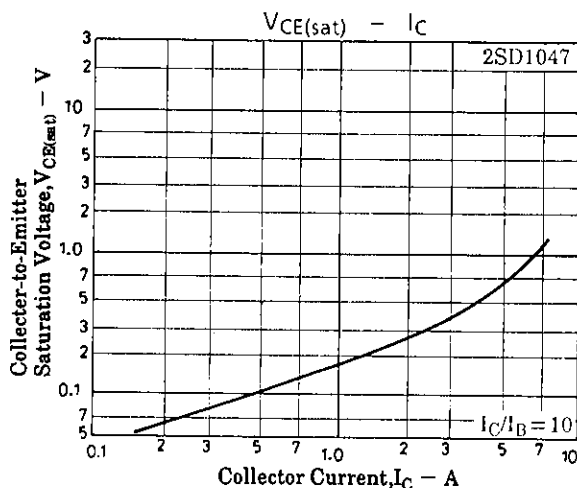
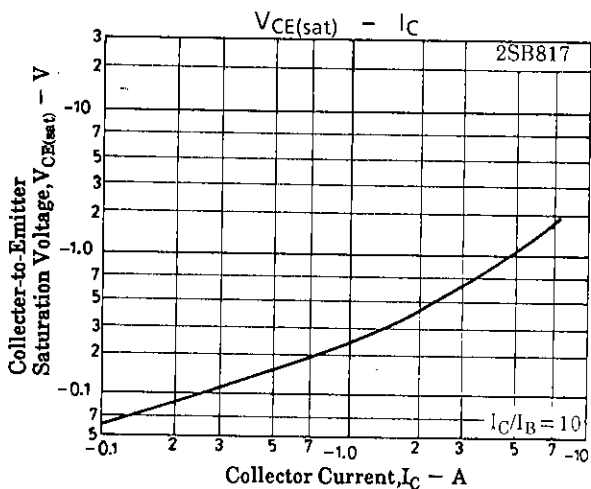
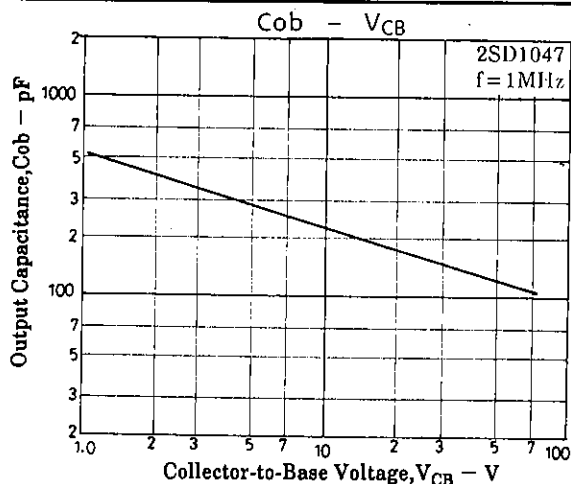
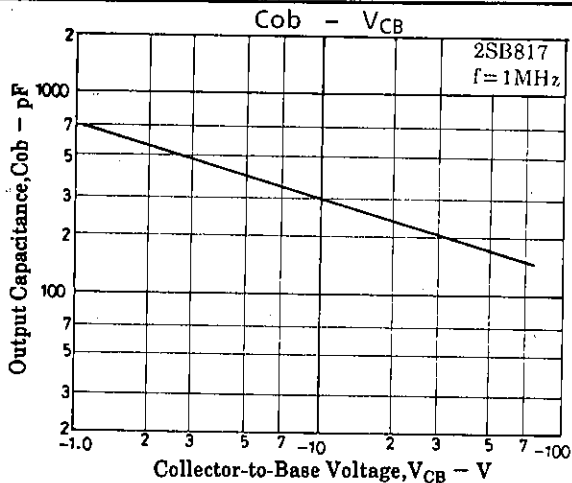
SANYO Electric Co., Ltd. Semiconductor Business Headquarters

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

2SB817/2SD1047



2SB817/2SD1047



- 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.

This catalog provides information as of September, 1995. Specifications and information herein are subject to change without notice.