

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

**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 $+150$	$^\circ\text{C}$

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

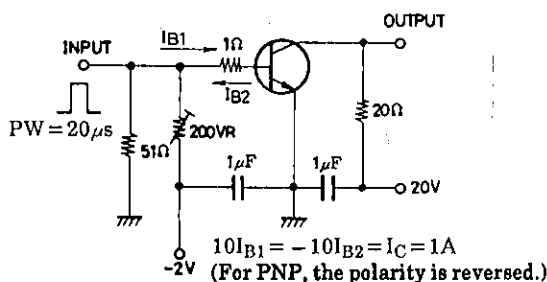
**Electrical Characteristics at  $T_a = 25^\circ\text{C}$**

			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	Cob	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(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) $0.26$			$\mu\text{s}$
Fall Time	$t_f$	"	(0.53) $0.68$			$\mu\text{s}$
Storage Time	$t_{stg}$	"	(1.61) $6.88$			$\mu\text{s}$

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

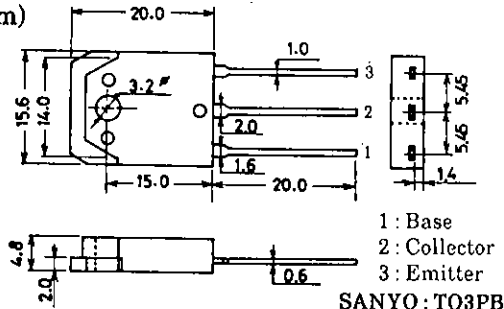
60	D	120	100	E	200
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**Switching Time Test Circuit**



**Package Dimensions 2022A**

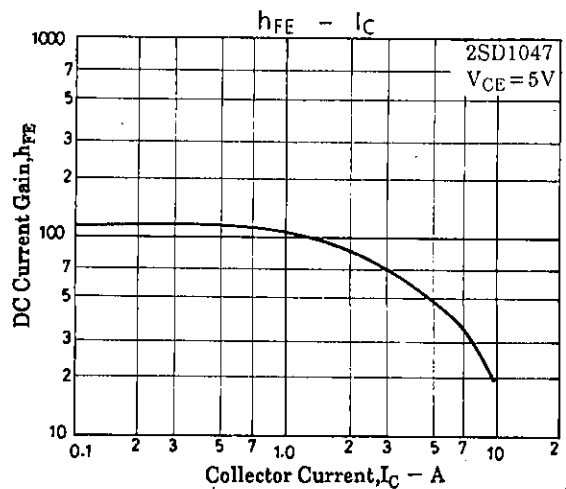
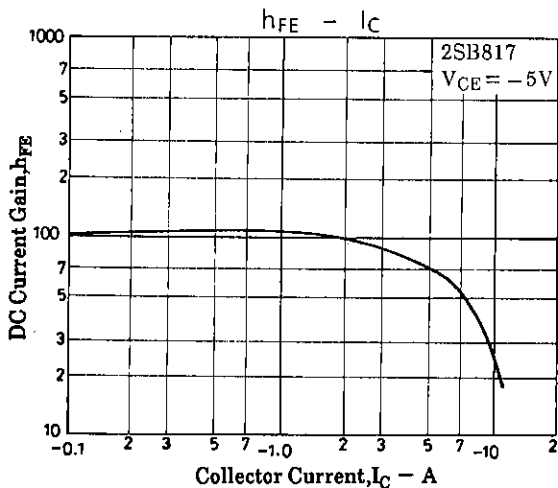
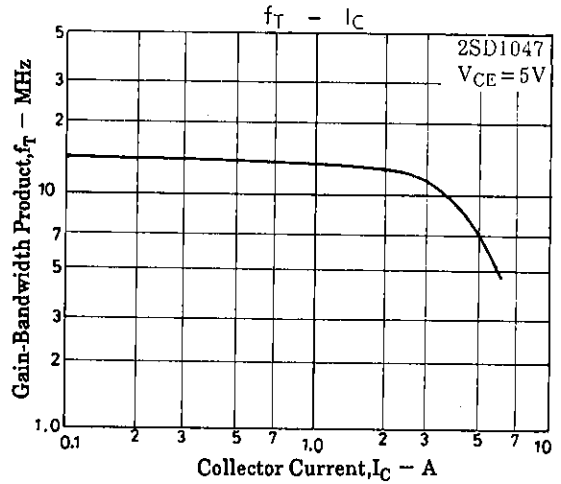
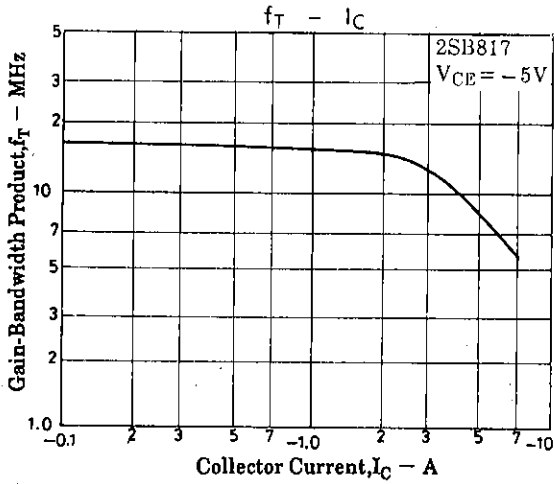
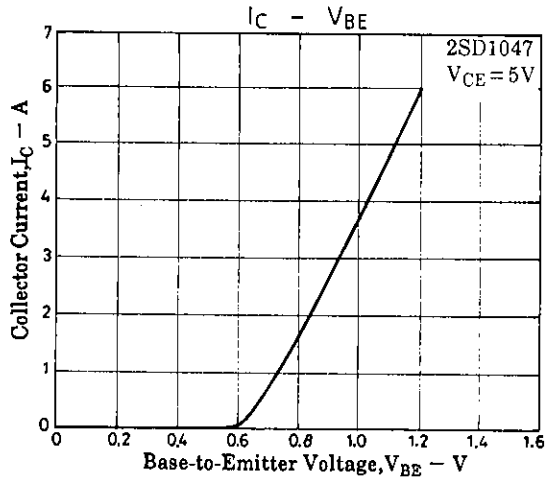
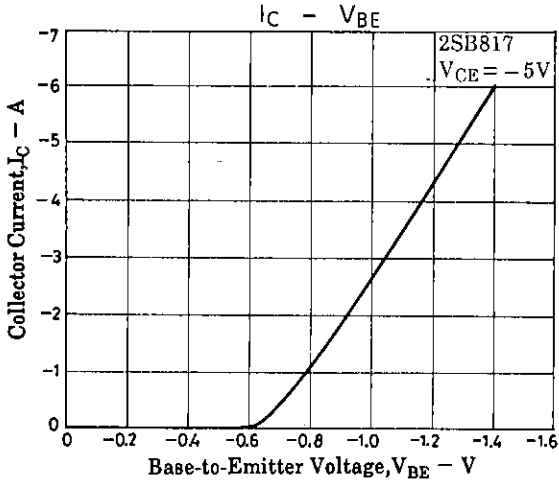
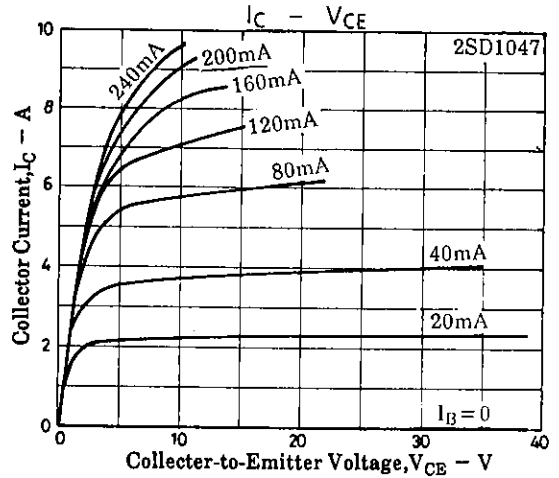
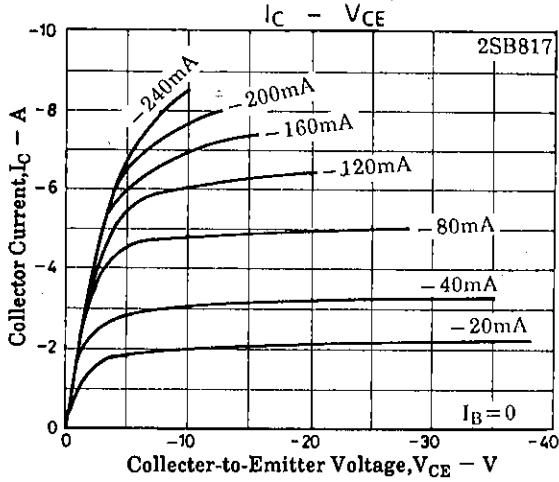
(unit : mm)



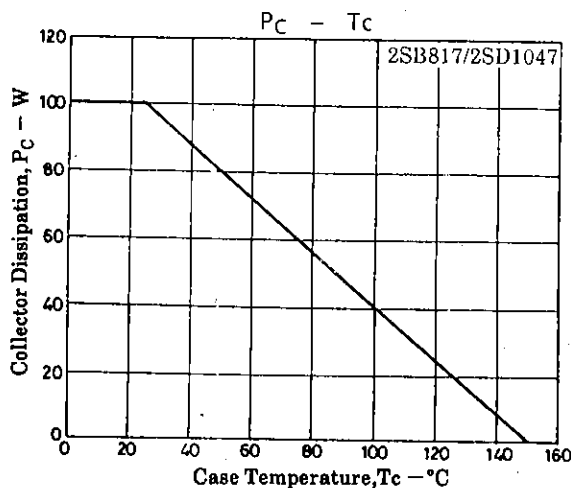
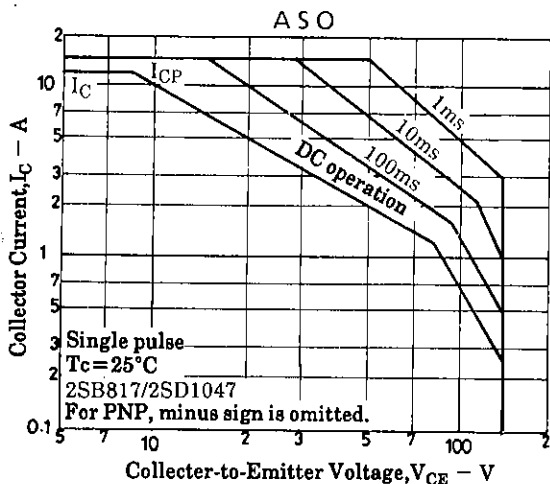
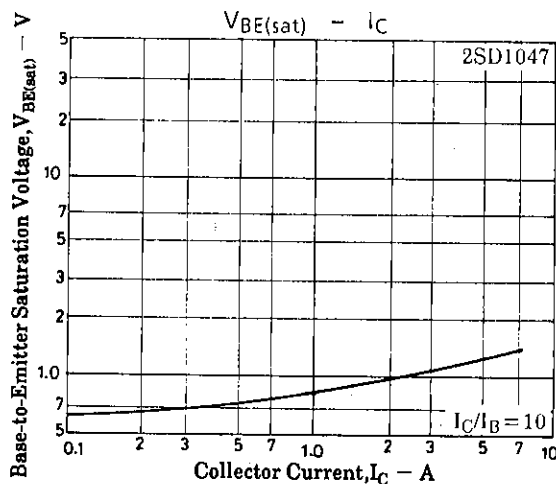
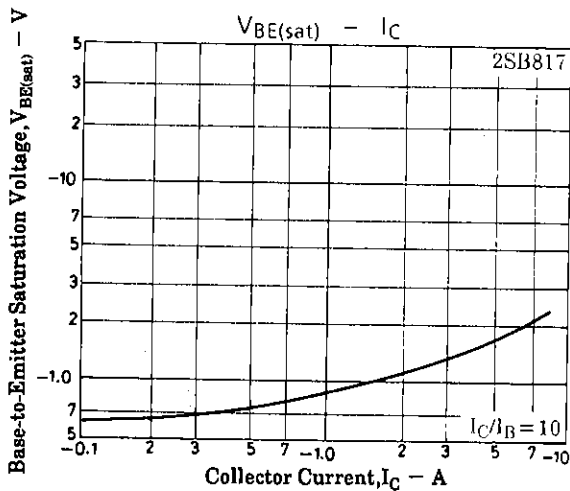
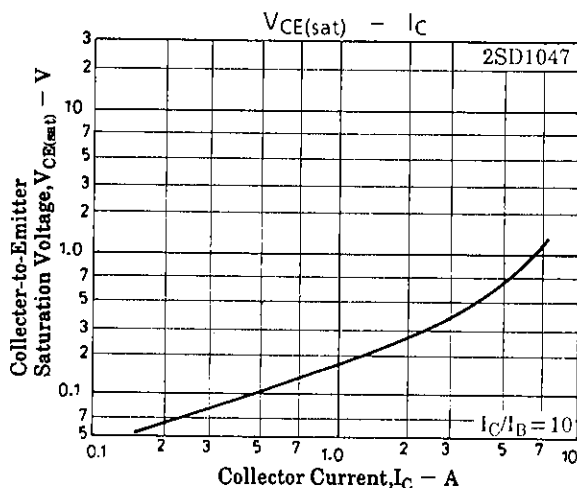
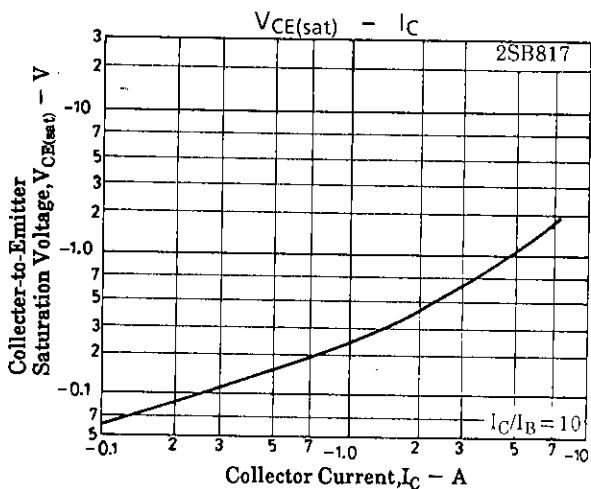
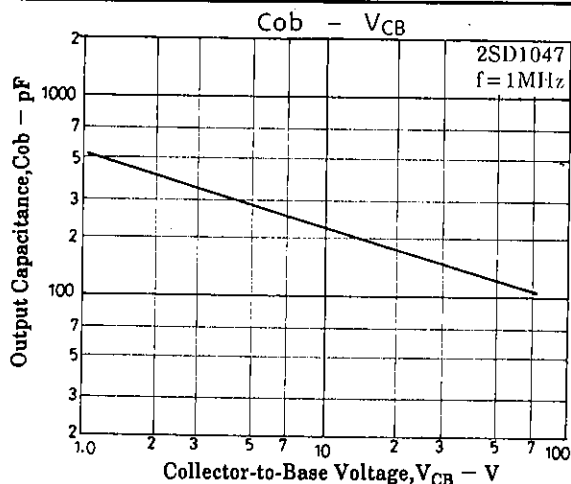
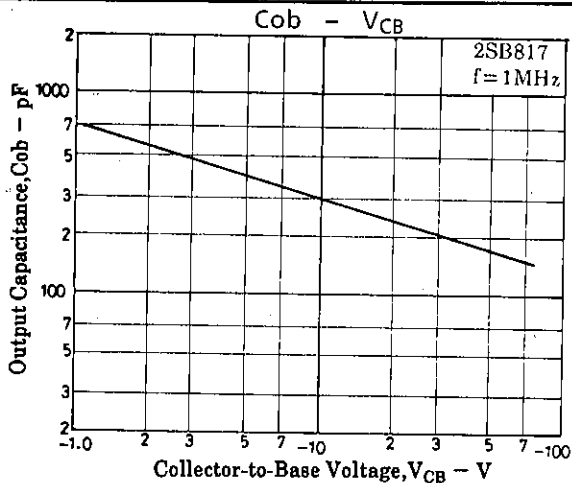
**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

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

2SB817/2SD1047



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