Ordering number: EN 678F

SANYO

No.678F

2SB776/2SD896

2SB776 : PNP Epitaxial Planar Silicon Transistor
2SD896 : NPN Triple Diffused Planar Silicon Transistor

100V/7A, AF 40W 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 responce.

The descriptions in parentheses are for the 2SB776 only ; other descriptions than those in parentheses are common to the 2SB 776 and 2SD896.

Absolute Maximum Ratings at Ta = 25°C

				unit
Collector-to-Base Voltage	V_{CBO}		(−)120	V
Collector-to-Emitter Voltage	V_{CEO}		(−)100	V
Emitter-to-Base Voltage	V_{EBO}		(−)6	V
Collector Current	I_C		(−)7	A
Collector Current (Pulse)	I_{CP}		(−)11	A
Collector Dissipation	P_C	Tc=25°C	70	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−40 to +150	°C

Electrical Characteristics at Ta = 25°C

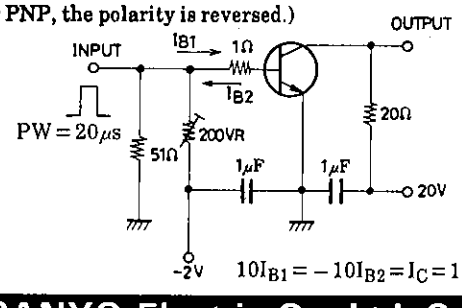
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(−)80V, I_E=0			(−)0.1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(−)4V, I_C=0			(−)0.1	mA
DC Current Gain	$h_{FE}(1)$	V_{CE}=(−)5V, I_C=(−)1A	60※		200※	
	$h_{FE}(2)$	V_{CE}=(−)5V, I_C=(−)4A	20			
Gain-Bandwidth Product	f_T	V_{CE}=(−)5V, I_C=(−)1A		15		MHz
Output Capacitance	Cob	V_{CB}=(−)10V, f=1MHz		(200)140		pF
Base-to-Emitter Voltage	V_{BE}	V_{CE}=(−)5V, I_C=(−)1A			(−)1.5	V
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=(−)4A, I_B=(−)0.4A		(−0.9) 0.6	2.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=(−)5mA, I_E=0	(−)120			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=(−)5mA, R_{BE}=∞	(−)100			V
		I_C=(−)50mA, R_{BE}=∞	(−)100			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=(−)5mA, I_C=0	(−)6			V
Turn-ON Time	t_{on}	See specified Test Circuit.		(0.2)0.2		μs
Fall Time	t_f	//		(0.3)0.6		μs
Storage Time	t_{stg}	//		(1.2)6.0		μs

※ : The 2SB776/2SD896 are classified by 1A h_{FE} as follows.

60	D	120	100	E	200

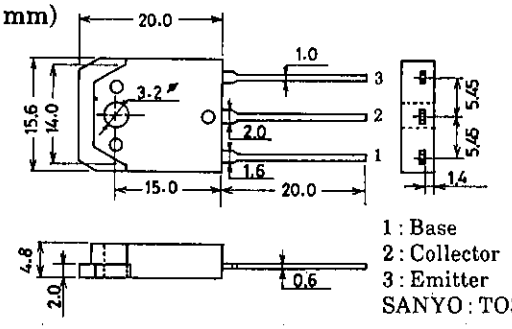
Switching Time Test Circuit

(For PNP, the polarity is reversed.)



Package Dimensions 2022A

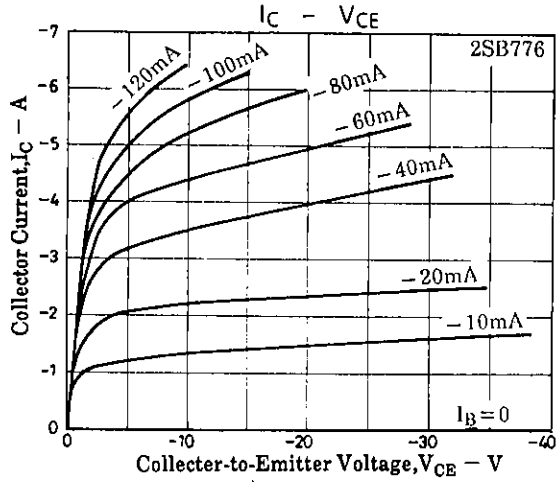
(unit : mm)



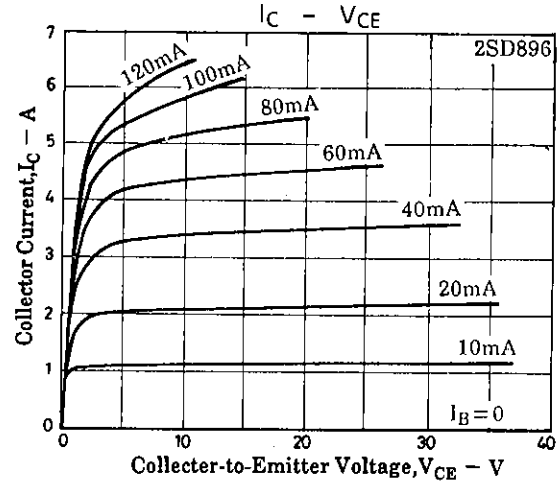
1 : Base
2 : Collector
3 : Emitter
SANYO : TO3PB

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

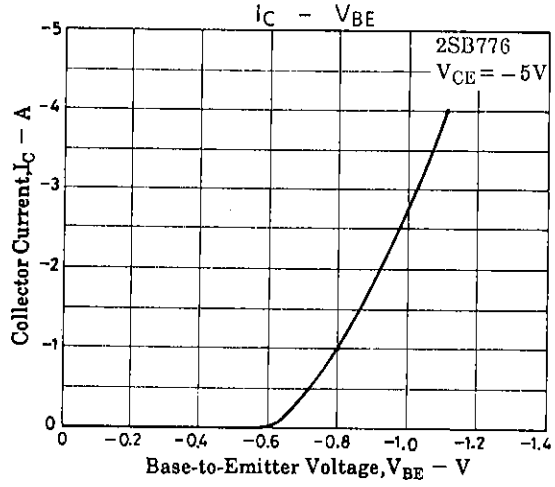
I_C – V_{CE}



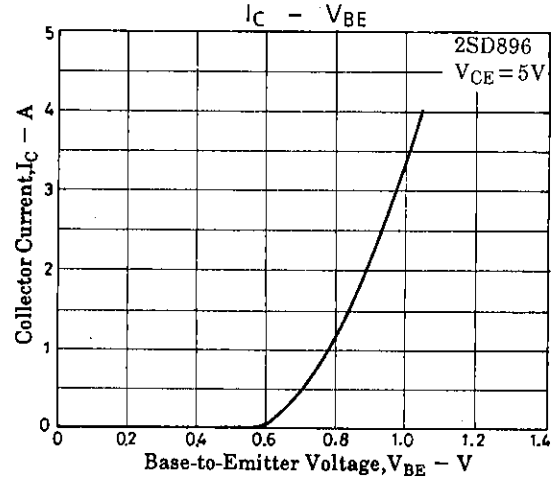
I_C – V_{CE}



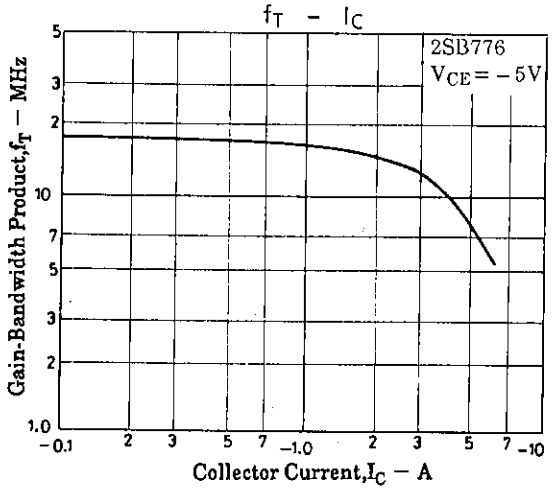
I_C – V_{BE}



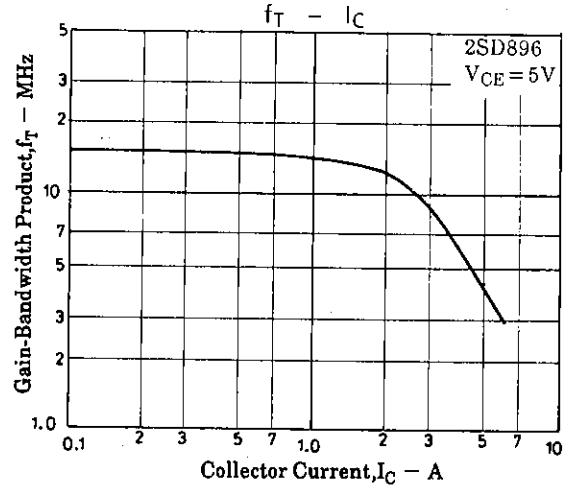
I_C – V_{BE}



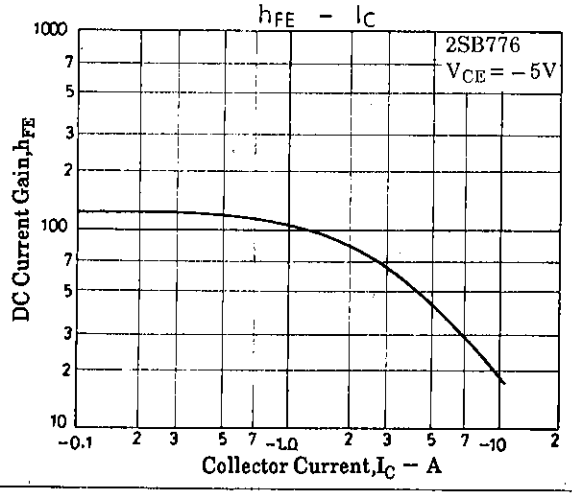
f_T – I_C



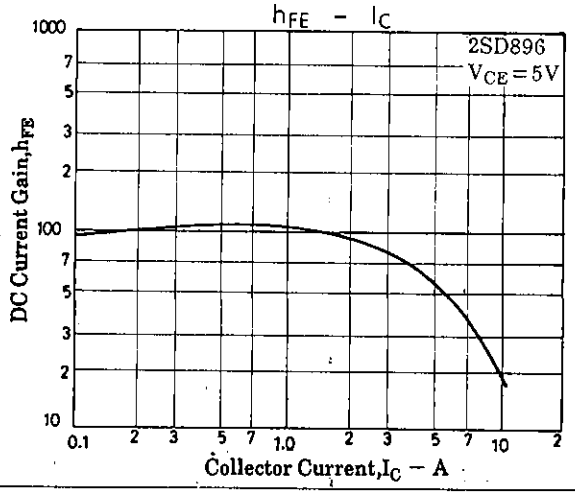
f_T – I_C



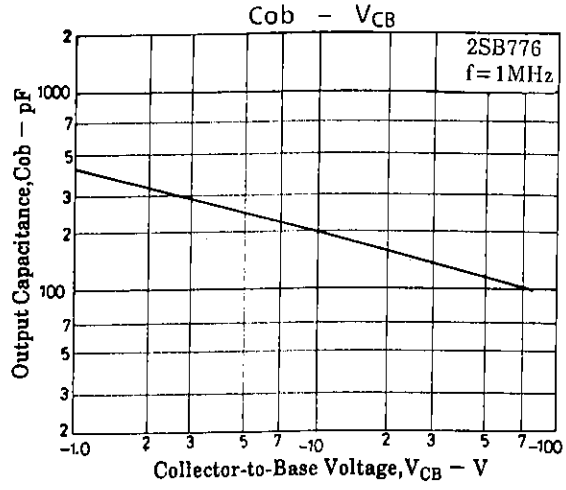
h_{FE} – I_C



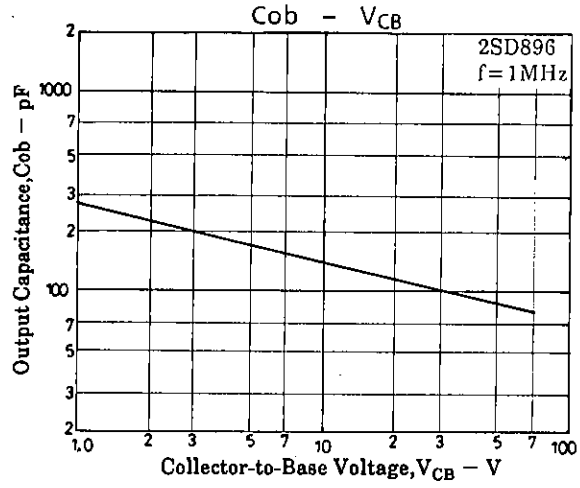
h_{FE} – I_C



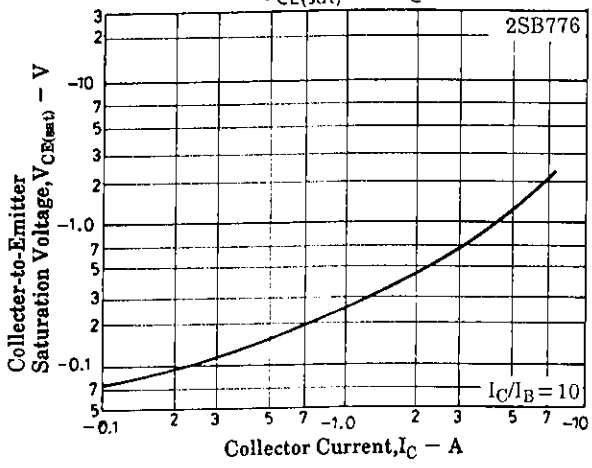
Cob – V_{CB}



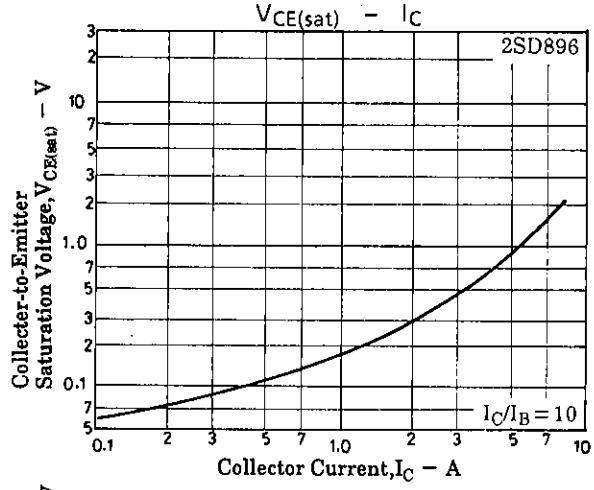
Cob – V_{CB}



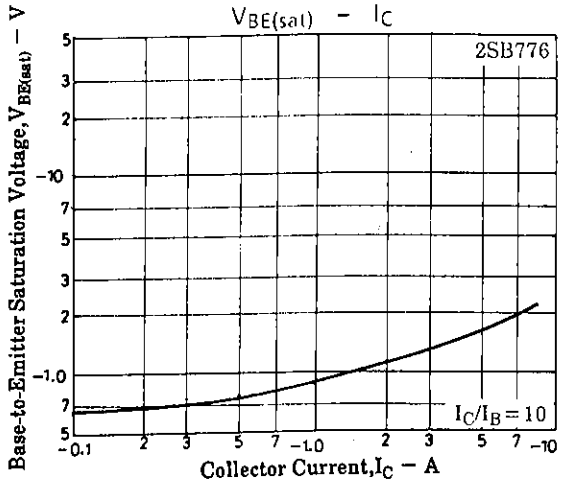
$V_{CE(sat)}$ – I_C



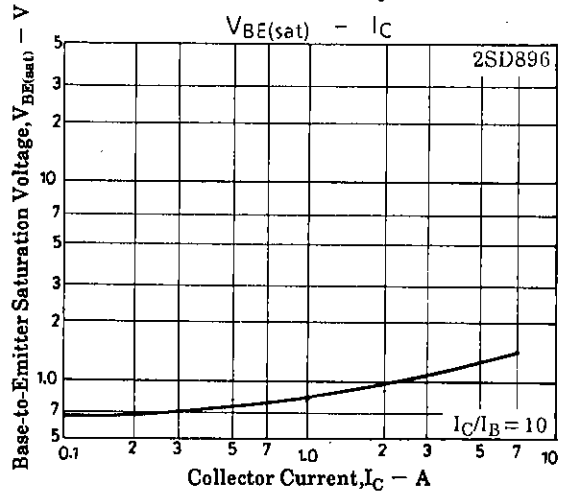
$V_{CE(sat)}$ – I_C



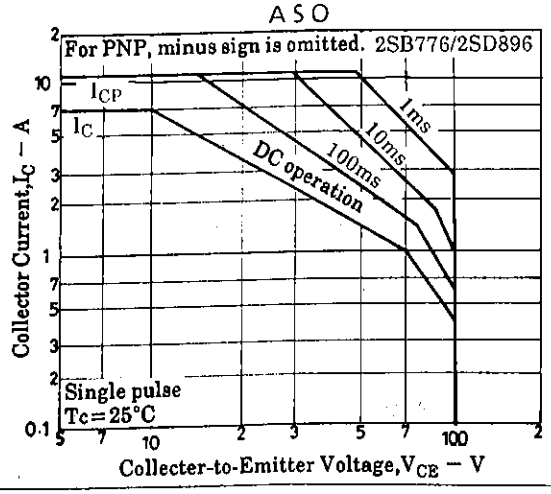
$V_{BE(sat)}$ – I_C



$V_{BE(sat)}$ – I_C



ASO



P_C – Tc