

<b>SANYO</b>	No.3512B	<b>2SA1786/2SC4646</b>
		2SA1786:PNP Epitaxial Planar Silicon Transistor 2SC4646:NPN Triple Diffused Planar Silicon Transistor
<b>High Voltage Driver Applications</b>		

**Features**

- Large current capacity ( $I_C = 2A$ )
- High breakdown voltage ( $V_{CEO} \geq 400V$ )

( ) : 2SA1786

**Absolute Maximum Ratings at  $T_a = 25^\circ C$**

			unit
Collector to Base Voltage	$V_{CBO}$	(- )400	V
Collector to Emitter Voltage	$V_{CEO}$	(- )400	V
Emitter to Base Voltage	$V_{EBO}$	(- )5	V
Collector Current	$I_C$	(- )2	A
Collector Current(Pulse)	$I_{CP}$	(- )4	A
Collector Dissipation	$P_C$	1	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ C$

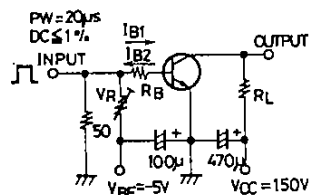
**Electrical Characteristics at  $T_a = 25^\circ C$**

			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)300V, I_E = 0$			(- )1.0	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)4V, I_C = 0$			(- )1.0	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE} = (-)10V, I_C = (-)100mA$	40*		200*	
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)10V, I_C = (-)100mA$		(40)60		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)500mA, I_B = (-)50mA$			(- )1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)500mA, I_B = (-)50mA$			(- )1.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(- )400			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(- )400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A, I_C = 0$	(- )5			V
Output Capacitance	$C_{ob}$	$V_{CB} = (-)30V, f = 1MHz$		(25)15		pF
Turn-ON Time	$t_{on}$	See specified Test Circuit.	(0.12)0.085			$\mu s$
Storage Time	$t_{stg}$	"	(3.0)4.0			$\mu s$
Fall Time	$t_f$	"	(0.3)0.6			$\mu s$

\*: The 2SA1786/2SC4646 are classified by 100mA  $h_{FE}$  as follows:

40 C 80	60 D 120	100 E 200
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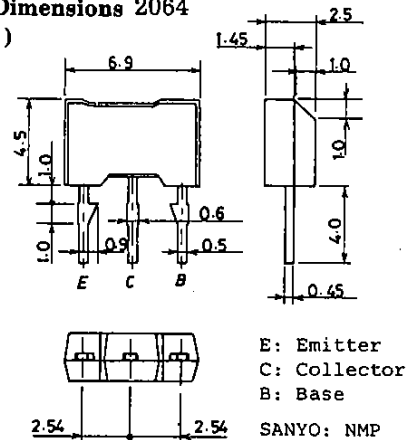
**Switching Time Test Circuit**



$10I_{B1} = -10I_{B2} = I_C = 500mA$   
 $R_L = 300\Omega, R_B = 20\Omega$ , at  $I_C = 500mA$   
 (For PNP, the polarity is reversed.)

Unit(Resistance :  $\Omega$  , Capacitance : F)

**Package Dimensions 2064**  
(unit: mm)

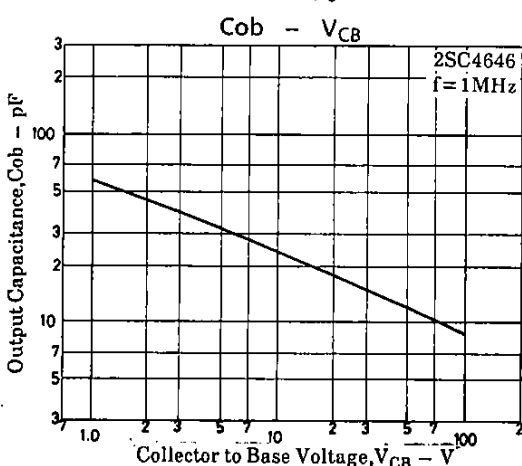
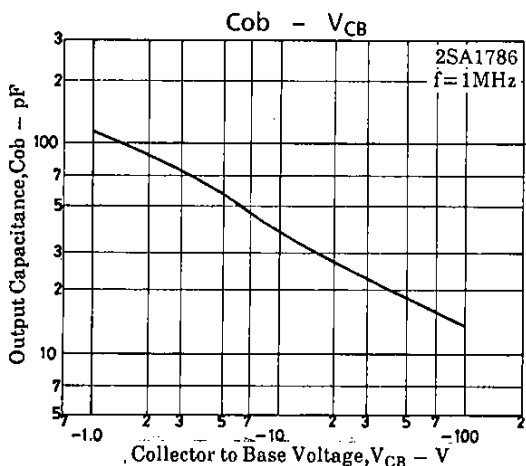
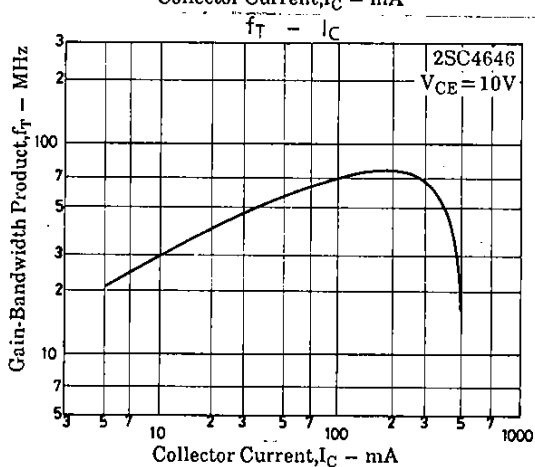
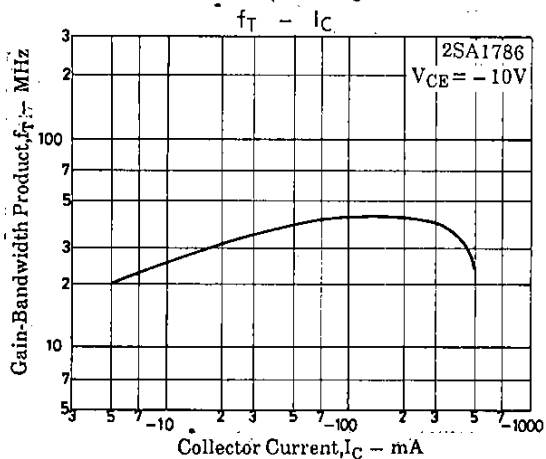
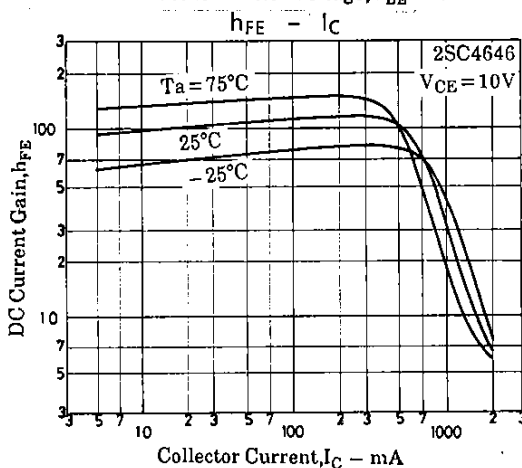
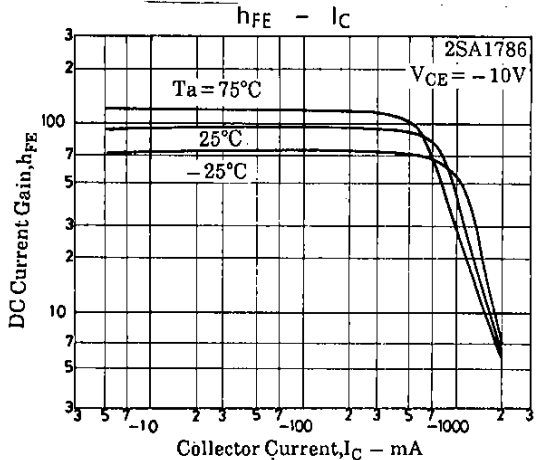
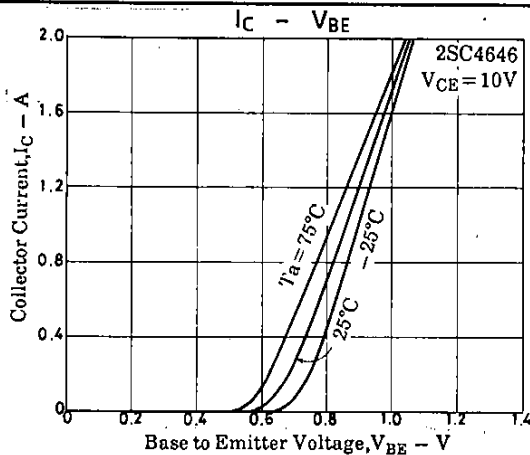
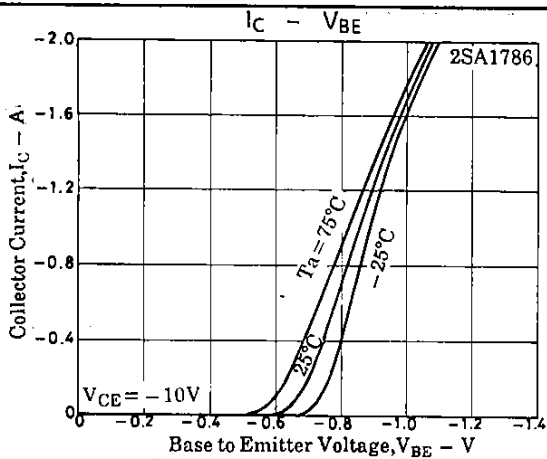


E: Emitter  
 C: Collector  
 B: Base  
 SANYO: NMP

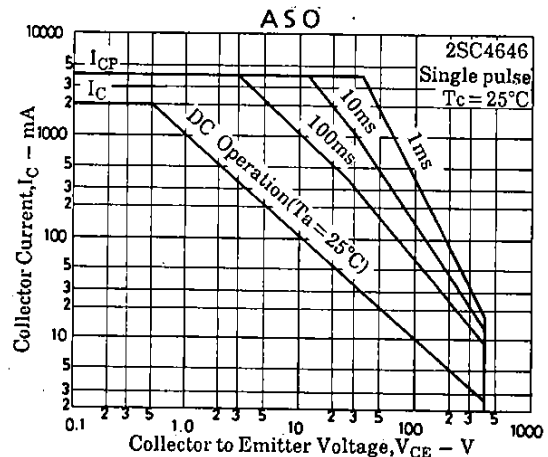
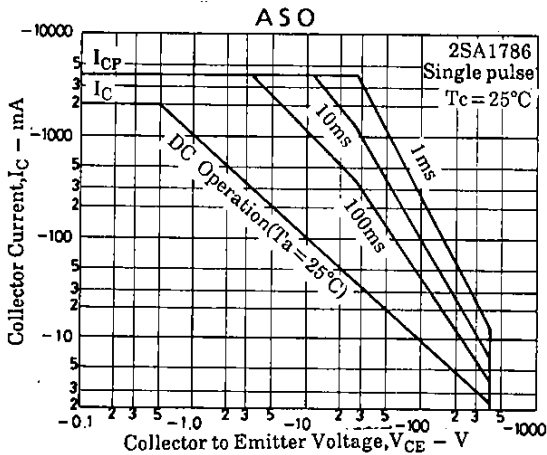
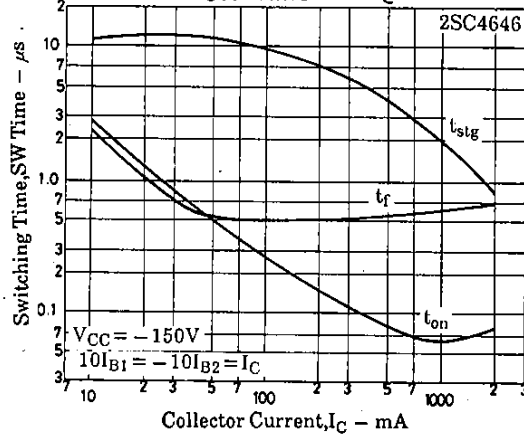
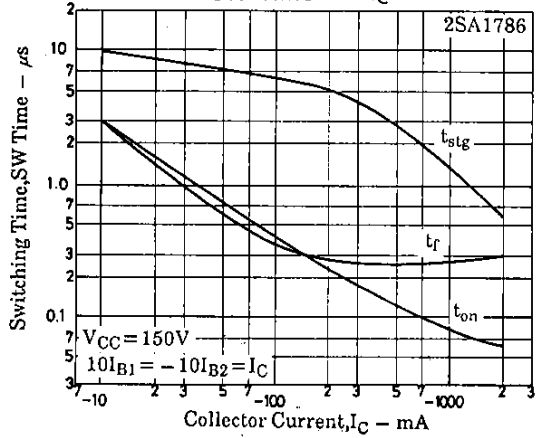
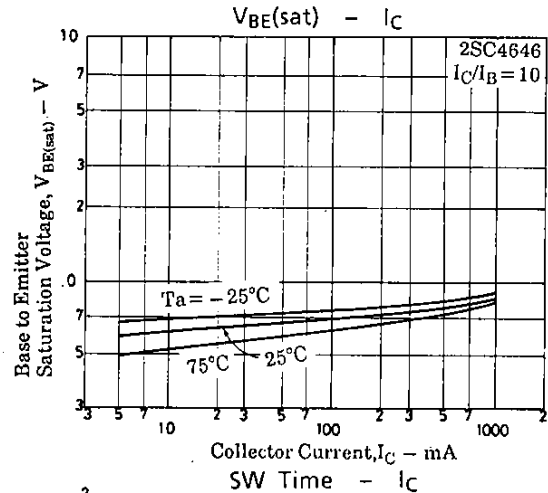
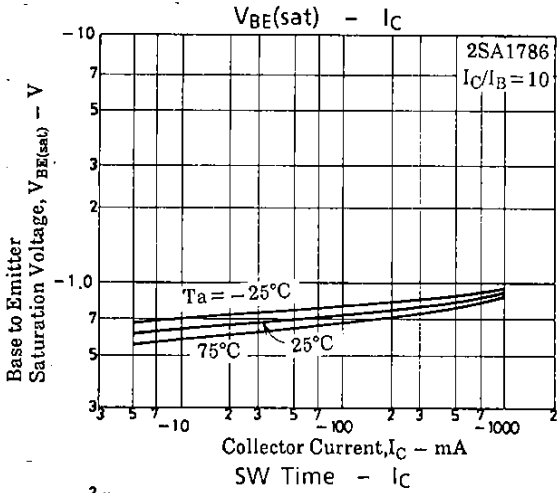
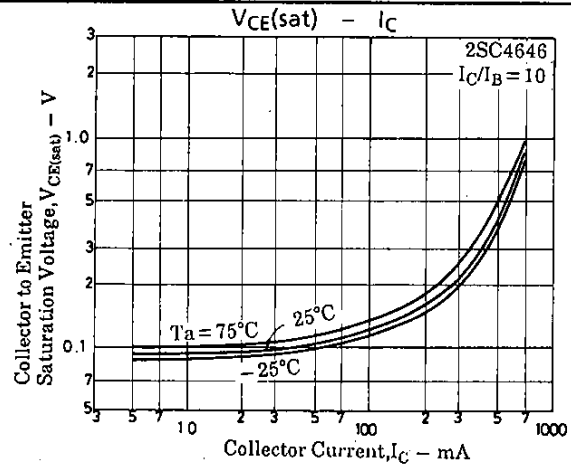
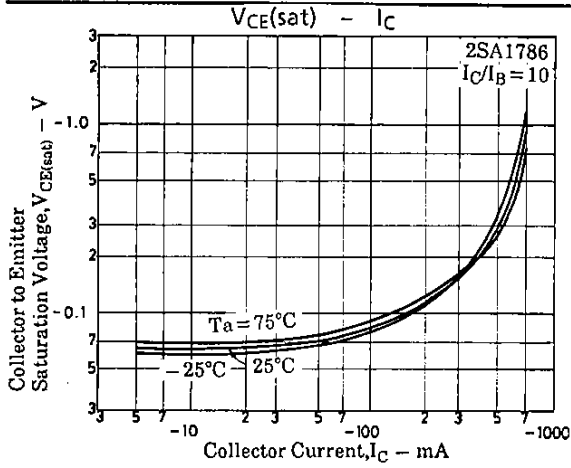
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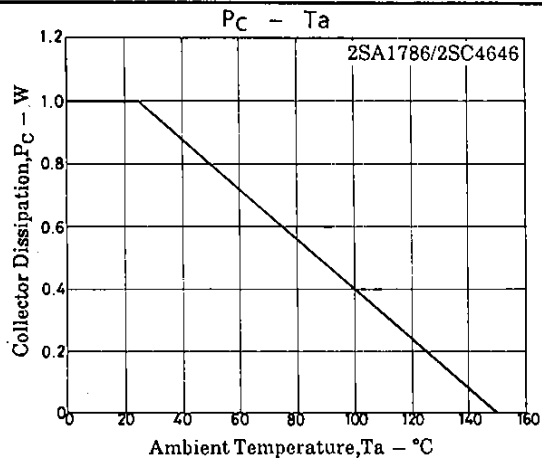
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2SA1786/2SC4646



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