

**SANYO**

No.3511A

**2SA1785/2SC4645**2SA1785:PNP Epitaxial Planar Silicon Transistor  
2SC4645:NPN Triple Diffused Planar Silicon Transistor

High Voltage Driver Applications

**Features**

- Large current capacity ( $I_C = 1A$ )
- High breakdown voltage ( $V_{CEO} \geq 400V$ )

( ): 2SA1785

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

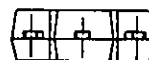
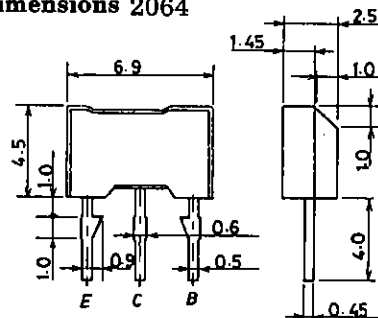
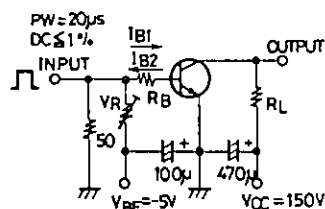
			unit
Collector to Base Voltage	$V_{CBO}$	(-)400	V
Collector to Emitter Voltage	$V_{CEO}$	(-)400	V
Emitter to Base Voltage	$V_{EBO}$	(-)5	V
Collector Current	$I_C$	(-)1	A
Collector Current(Pulse)	$I_{CP}$	(-)2	A
Collector Dissipation	$P_C$	1	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-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	$f_T$	$V_{CE} = (-)10V, I_C = (-)50mA$		(50)70		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)200mA, I_B = (-)20mA$			(-)1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)200mA, I_B = (-)20mA$			(-)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	$C_{ob}$	$V_{CB} = (-)30V, f = 1MHz$		(12)8		pF
Turn-ON Time	$t_{on}$	See specified Test Circuit.	(0.25)0.11			$\mu s$
Storage Time	$t_{stg}$	"	(3.0)4.0			$\mu s$
Fall Time	$t_f$	"	(0.3)0.65			$\mu s$

\*: The 2SA1785/2SC4645 are classified by 100mA  $h_{FE}$  as follows:

40 C 80	60 D 120	100 E 200
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**Package Dimensions 2064**  
(unit: mm)E: Emitter  
C: Collector  
B: Base  
SANYO: NMP**Switching Time Test Circuit**

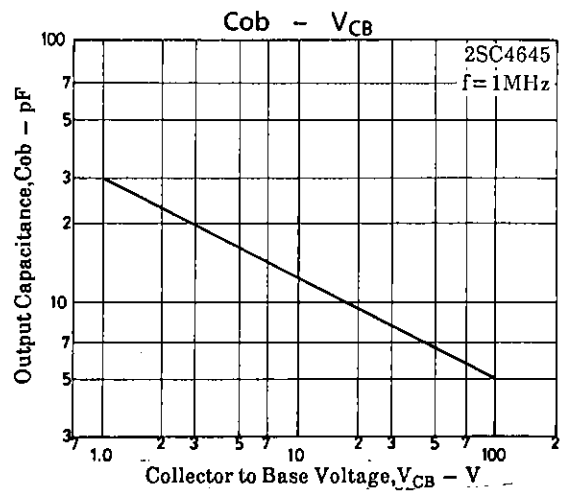
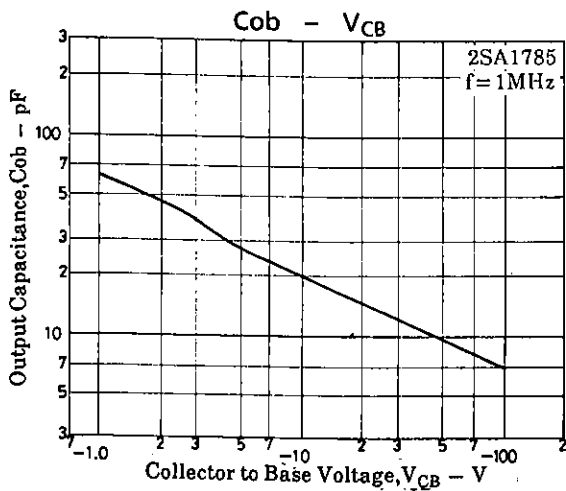
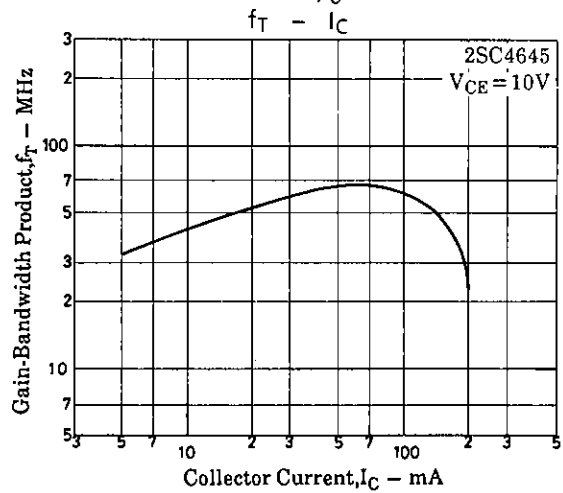
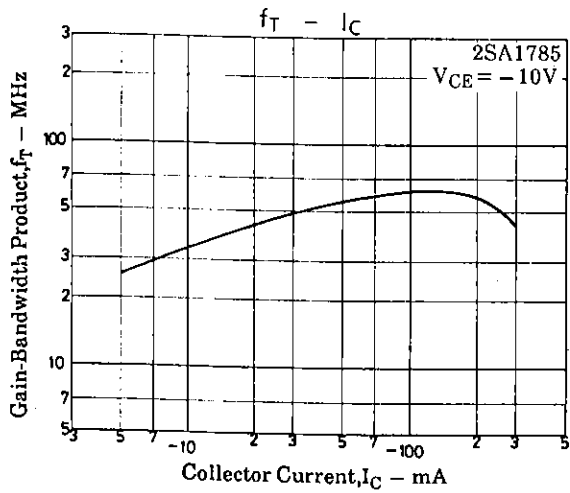
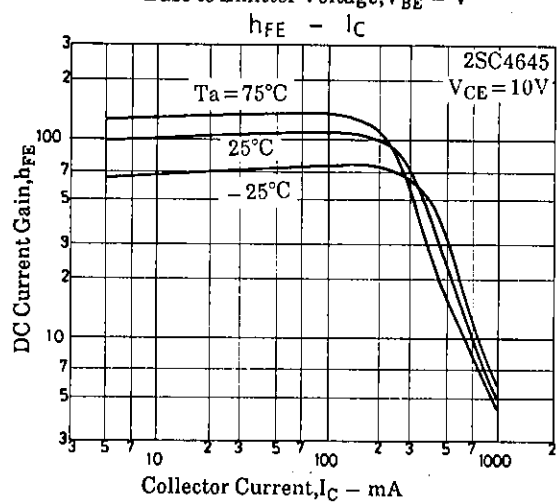
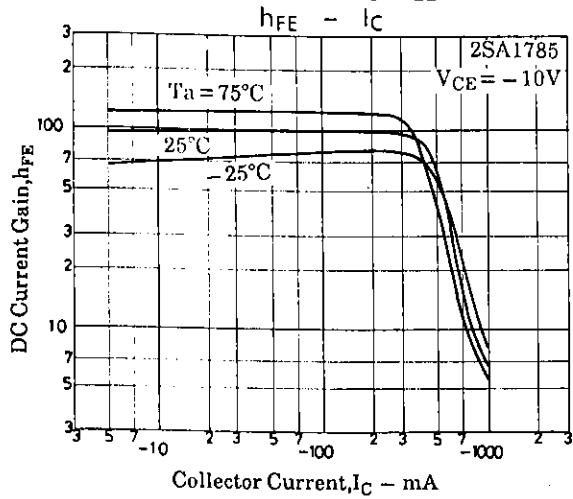
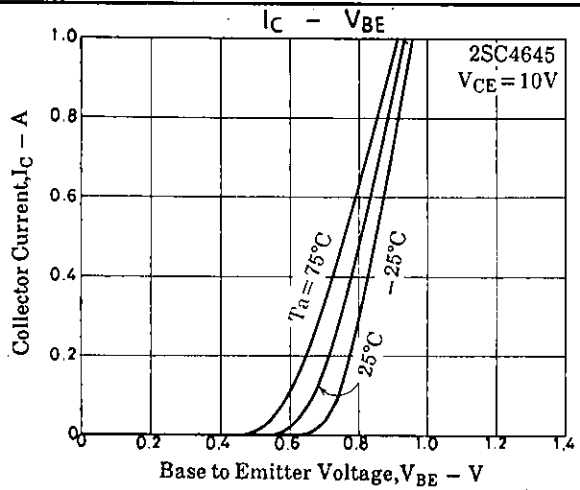
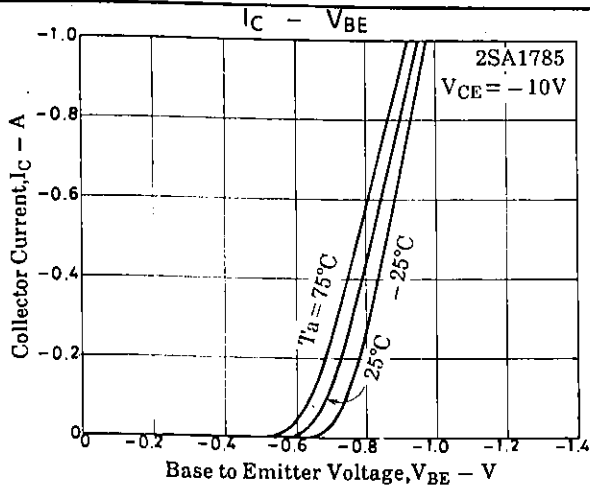
$10I_{B1} = -10I_{B2} = I_C = 200mA$   
 $R_L = 750\Omega, R_B = 50\Omega$ , at  $I_C = 200mA$   
 (For PNP, the polarity is reversed.)

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

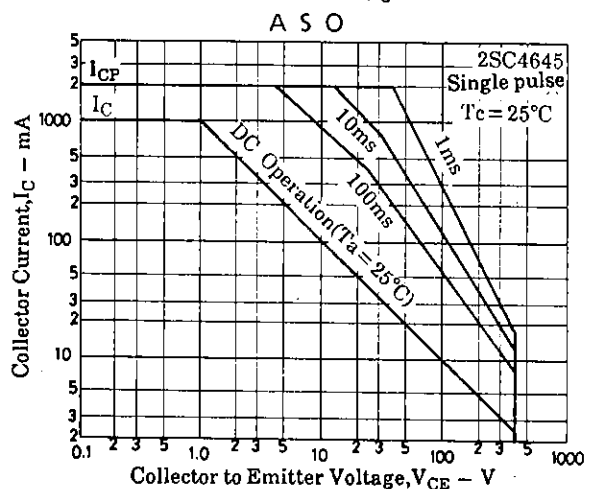
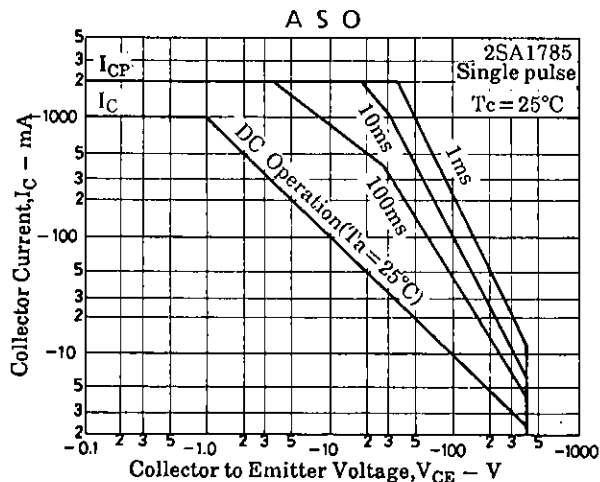
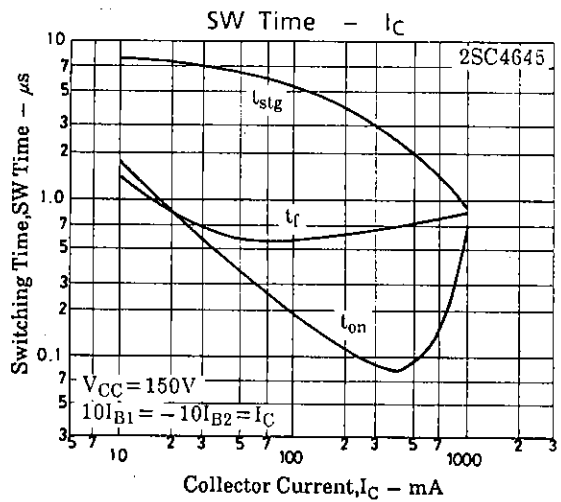
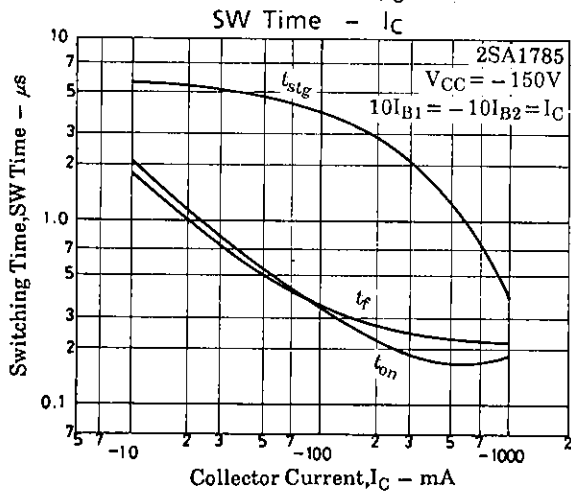
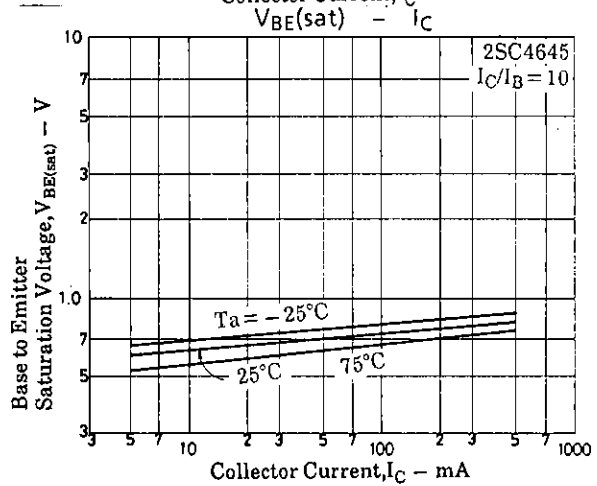
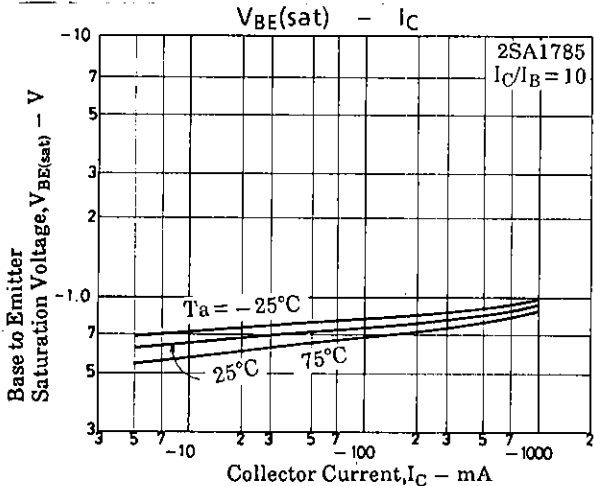
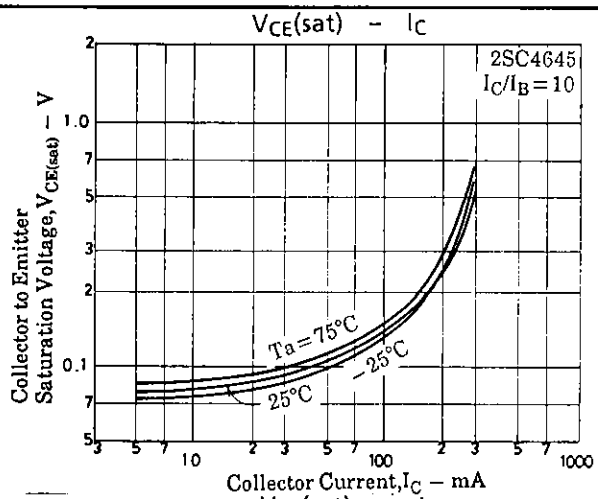
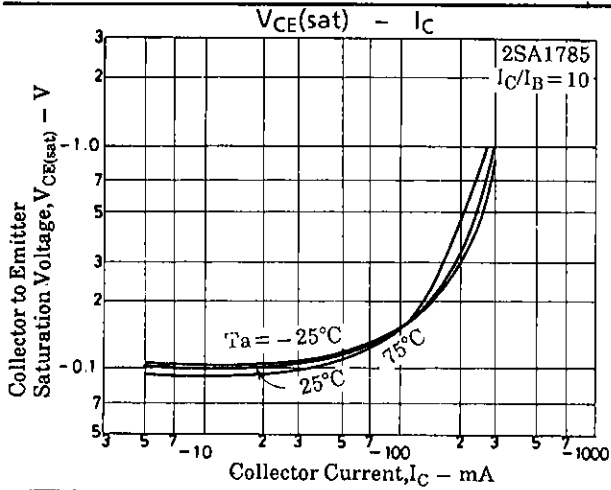
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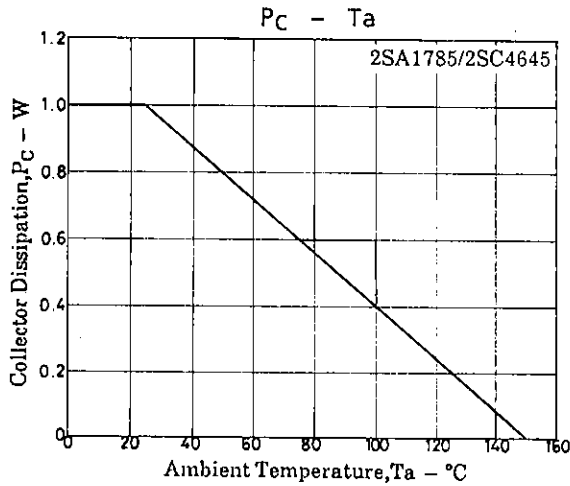
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