Ordering number: EN3511A

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}≧400V)

( ) : 2SA1785

Absolute Maximum Ratings at Ta=25°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	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

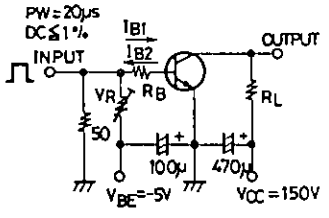
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(−)300V,I_E=0			(−)1.0	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(−)4V,I_C=0			(−)1.0	μA
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=(−)10μA,I_E=0	(−)400			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=(−)1mA,R_{BE}=∞	(−)400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=(−)10μA,I_C=0	(−)5			V
Output Capacitance	Cob	V_{CB}=(−)30V,f=1MHz		(12)8		pF
Turn-ON Time	t_{on}	See specified Test Circuit.		(0.25)0.11		μs
Storage Time	t_{stg}	〃		(3.0)4.0		μs
Fall Time	t_f	〃		(0.3)0.65		μs

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

40 C 80	60 D 120	100 E 200

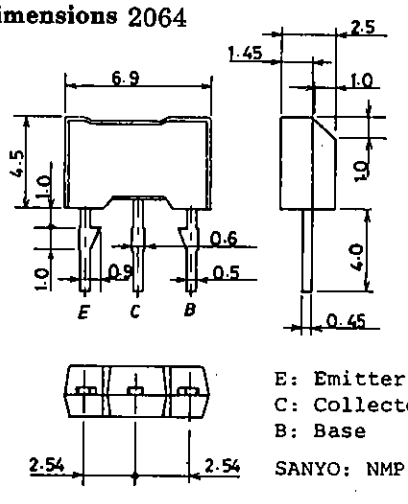
Switching Time Test Circuit



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

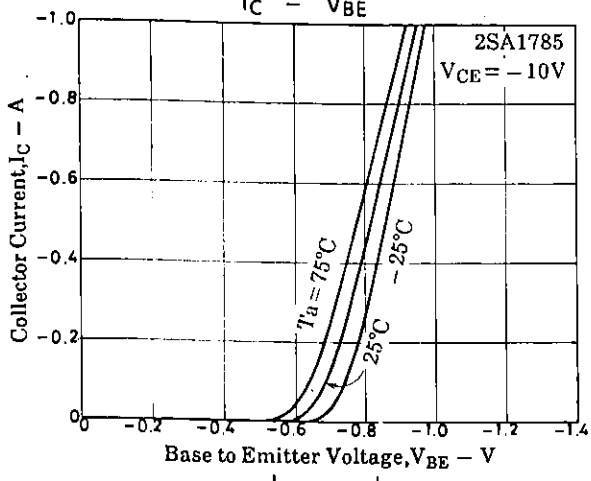
Unit(Resistance : Ω , Capacitance : F)

Package Dimensions 2064
(unit: mm)

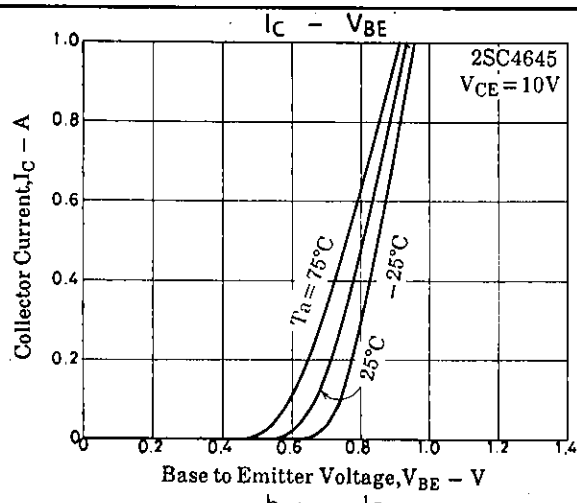


E: Emitter
C: Collector
B: Base
SANYO: NMP

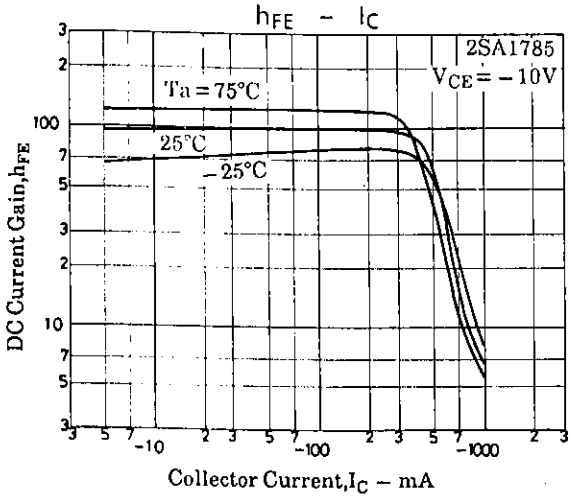
I_C – V_{BE}



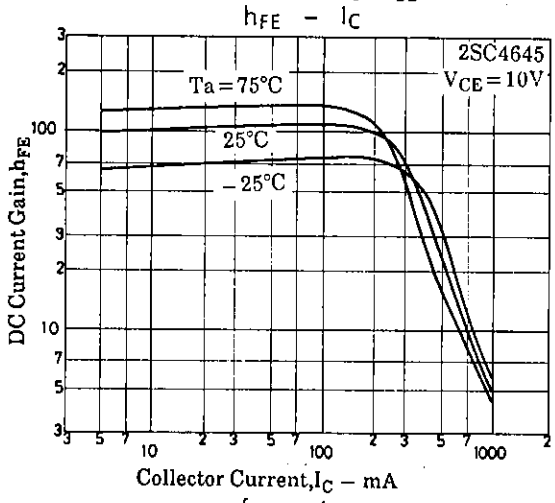
I_C – V_{BE}



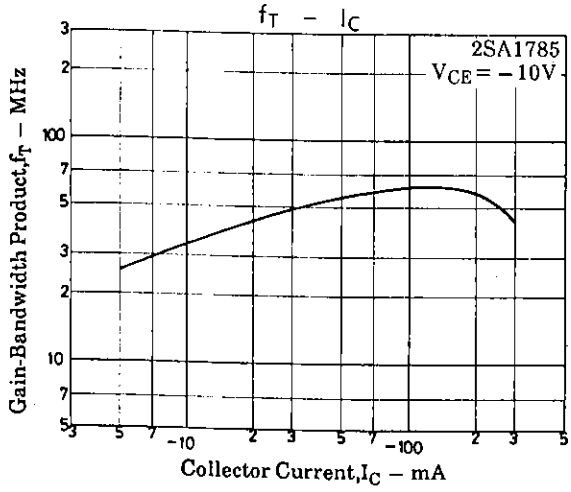
h_{FE} – I_C



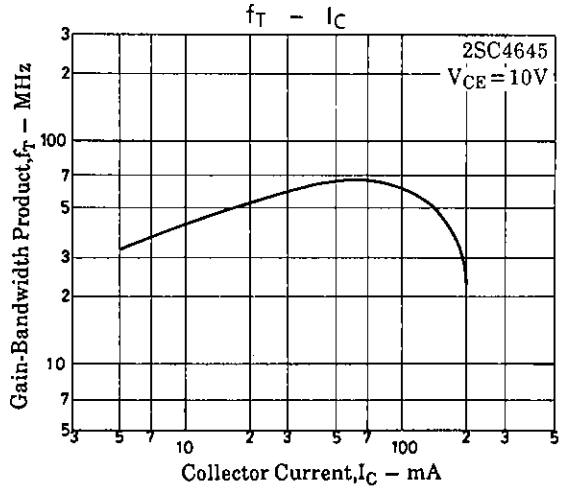
h_{FE} – I_C



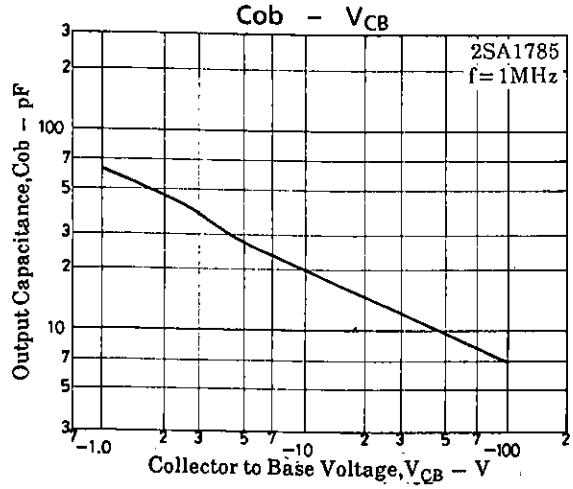
f_T – I_C



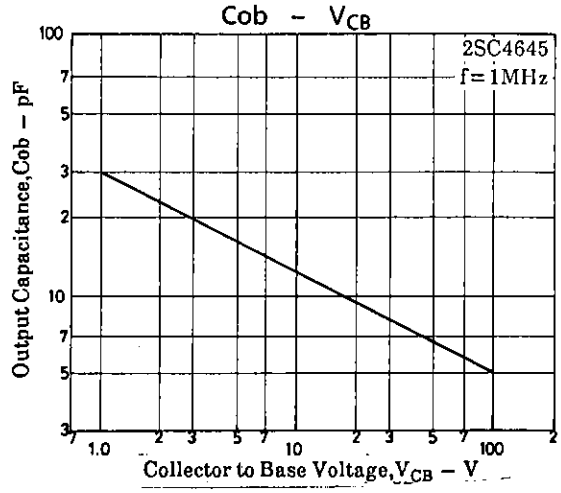
f_T – I_C



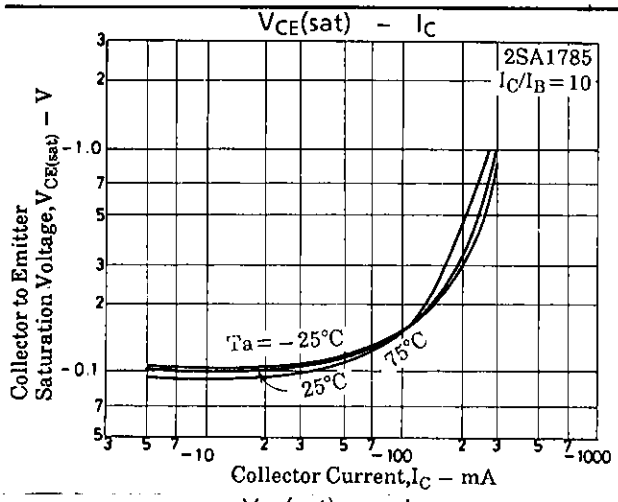
Cob – V_{CB}



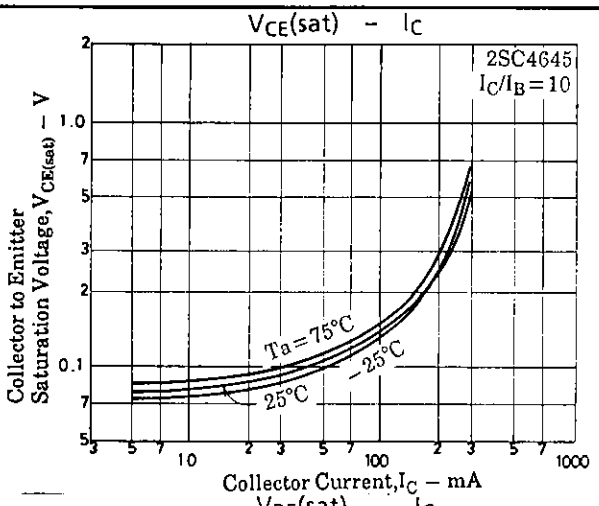
Cob – V_{CB}



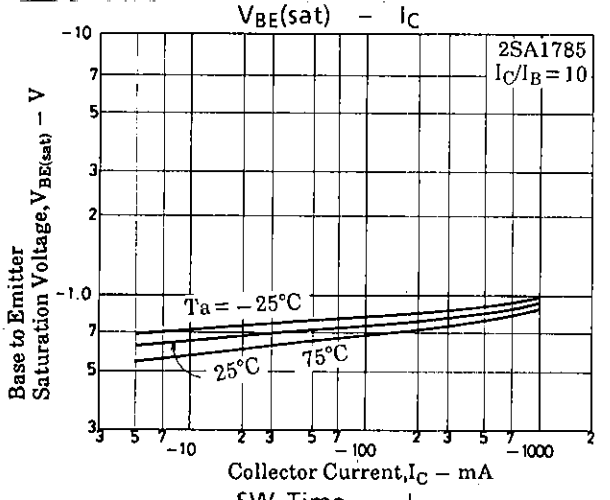
$V_{CE(sat)}$ – I_C



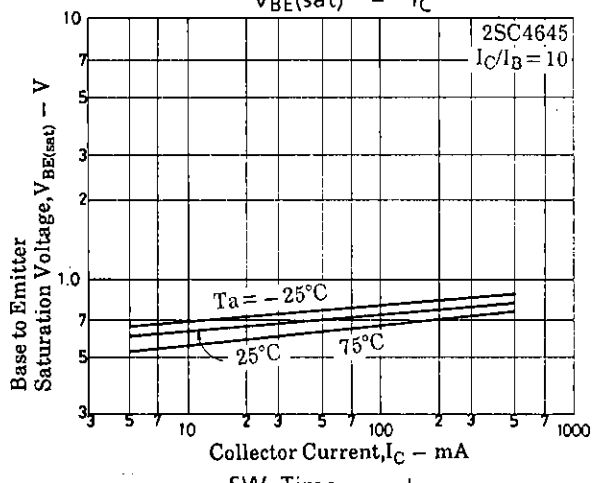
$V_{CE(sat)}$ – I_C



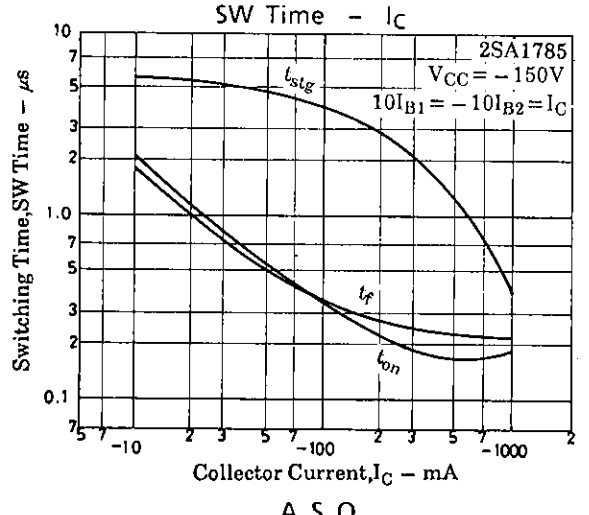
$V_{BE(sat)}$ – I_C



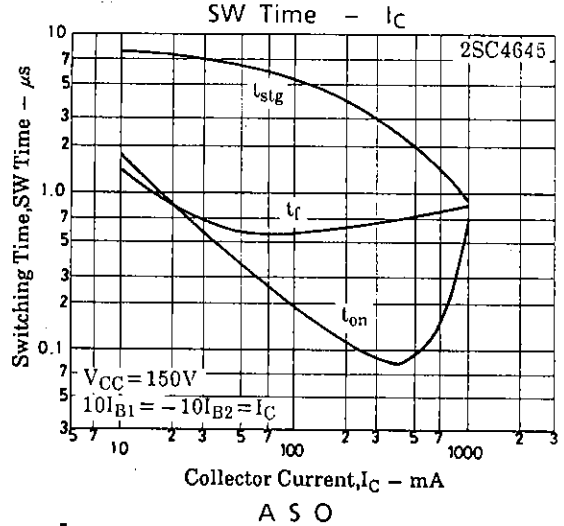
$V_{BE(sat)}$ – I_C



SW Time – I_C



SW Time – I_C



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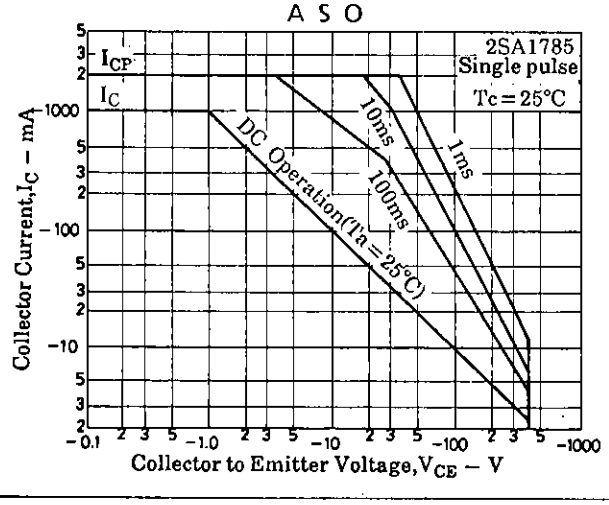

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