Ordering number:EN3398A

2SA1772 : PNP Epitaxial Planar Silicon Transistor
2SC4615 : NPN Triple Diffused Planar Silicon Transistor

2SA1772/2SC4615

High-Voltage Driver Applications

Features

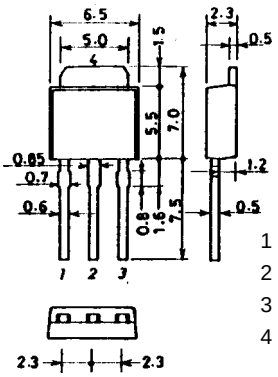
- Large current capacity (I_C=1A).
- High breakdown votlage (V_{CEO}≥400V).

Package Dimensions

unit:mm

2045B

[2SA1772/2SC4615]



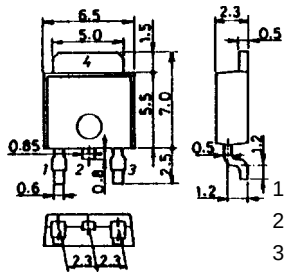
1 : Base
2 : Collector
3 : Emitter
4 : Collector

SANYO : TP

unit:mm

2044B

[2SA1772/2SC4615]



1 : Base
2 : Collector
3 : Emitter
4 : Collector

SANYO : TP-FA

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

( ) : 2SA1772

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	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
Colletor Current (Pulse)	I_{CP}		(–)2	A
Collector Dissipation	P_C		1	W
		Tc=25˚C	15	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

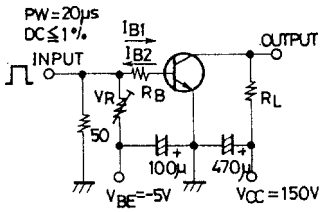
Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
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
Output Capacitance	C_{ob}	V_{CB}=(–)30V, f=1MHz		(12)8		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)200mA, I_B=(–)20mA			(–)1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)200mA, I_B=(–)20mA			(–)1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10µA, I_E=0	(–)400			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)400			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(–)10µA, I_C=0	(–)5			V
Turn-ON Time	t_{on}	See specified Test Circuit		(0.25)		µs
				0.11		µs
Storage Time	t_{stg}	See specified Test Circuit		(3.0)		µs
				4.0		µs
Fall Time	t_f	See specified Test Circuit		(0.3)		µs
				0.65		µs

* : The 2SA1772/2SC4615 are classified by 100mA h_{FE} as follows :

40 C 80	60 D 120	100 E 200

Switching Time Test Circuit

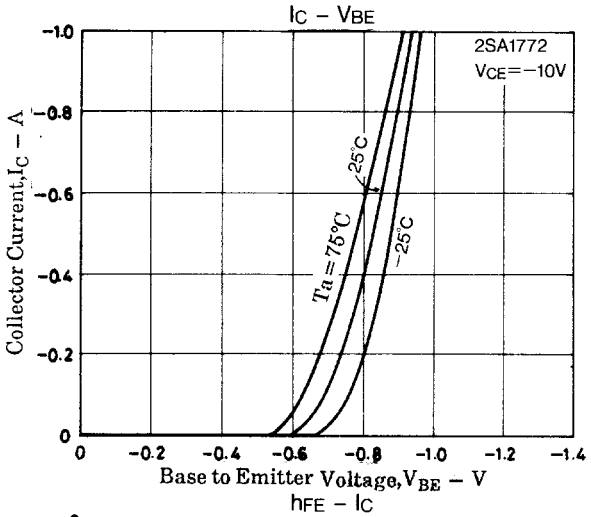


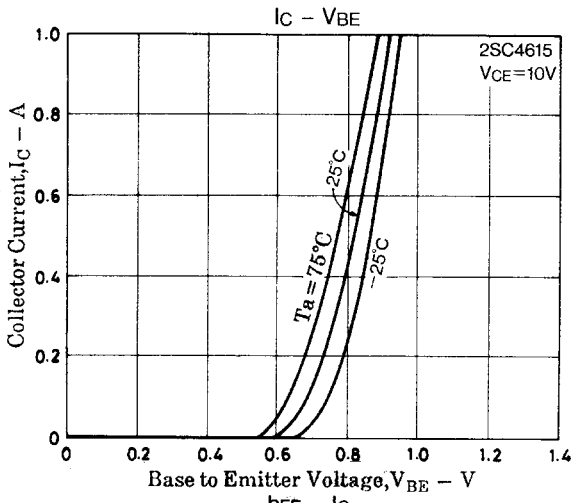
$10I_{B1} = -10I_{B2} = I_C = 200mA$

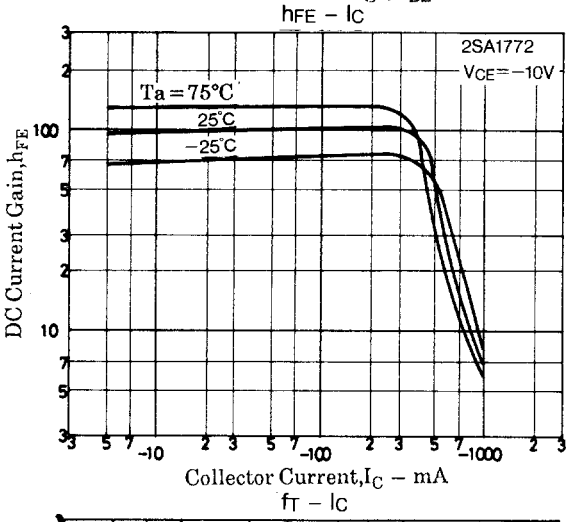
$R_L = 750\Omega$, $R_B = 50\Omega$, at $I_C = 200mA$

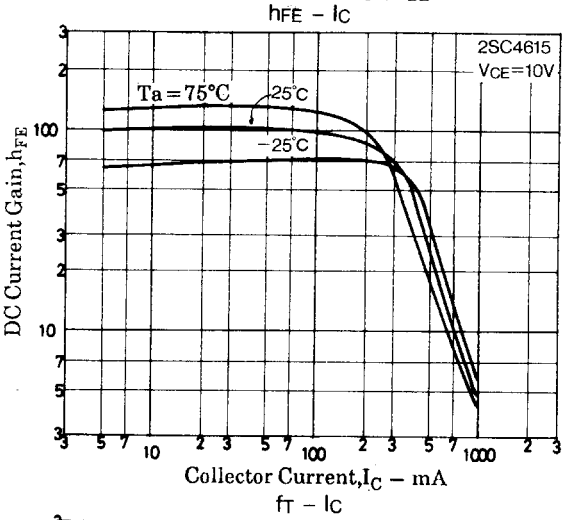
(For PNP, the polarity is reversed.)

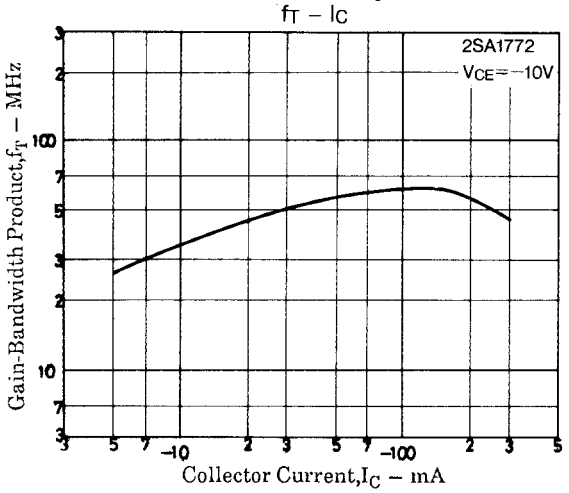
Unit (resistance : Ω, capacitance : F)

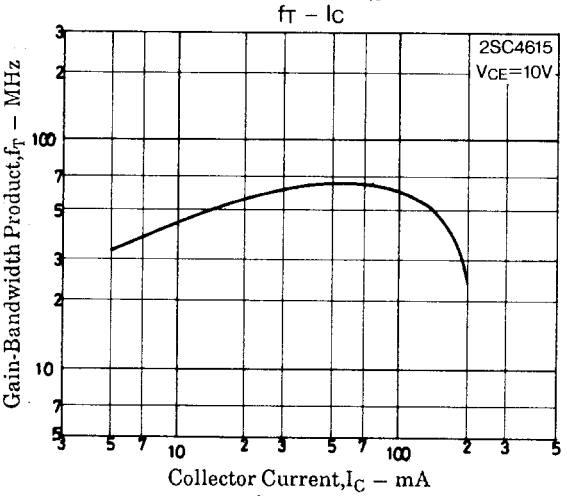

IC – VBE
2SA1772
VCE=–10V
Ta=75°C
25°C
–25°C
Collector Current,IC – A
Base to Emitter Voltage,VBE – V

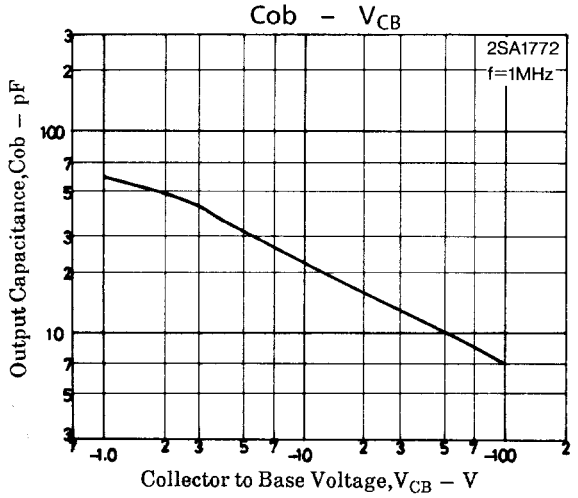

IC – VBE
2SC4615
VCE=10V
Ta=75°C
25°C
–25°C
Collector Current,IC – A
Base to Emitter Voltage,VBE – V

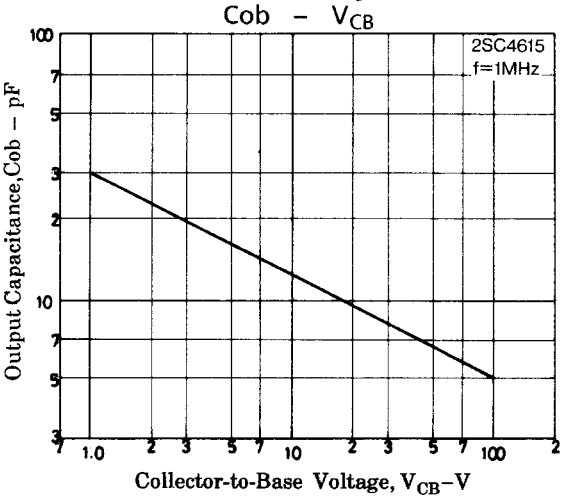

hFE – IC
2SA1772
VCE=–10V
Ta=75°C
25°C
–25°C
DC Current Gain,hFE
Collector Current,IC – mA


hFE – IC
2SC4615
VCE=10V
Ta=75°C
25°C
–25°C
DC Current Gain,hFE
Collector Current,IC – mA

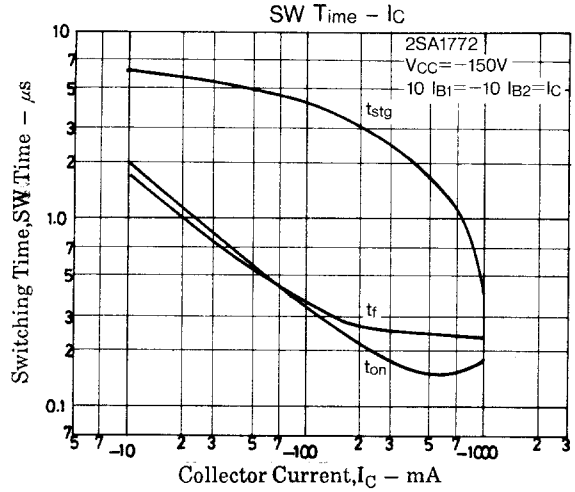

fT – IC
2SA1772
VCE=–10V
Gain-Bandwidth Product,fT – MHz
Collector Current,IC – mA


fT – IC
2SC4615
VCE=10V
Gain-Bandwidth Product,fT – MHz
Collector Current,IC – mA

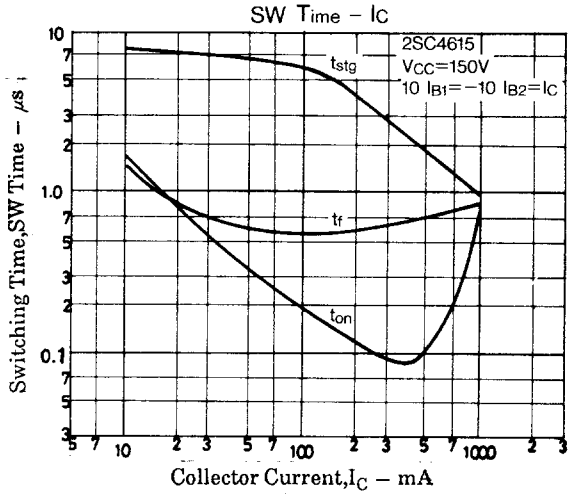

Cob – VCB
2SA1772
f=1MHz
Output Capacitance,Cob – pF
Collector to Base Voltage,VCB – V


Cob – VCB
2SC4615
f=1MHz
Output Capacitance,Cob – pF
Collector-to-Base Voltage, VCB–V

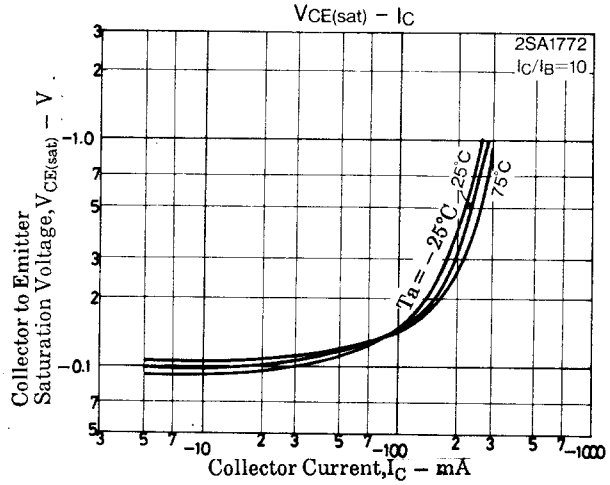
SW Time – IC



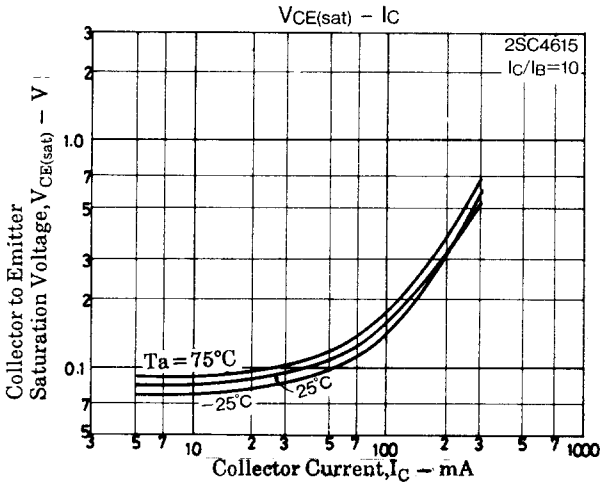
SW Time – IC



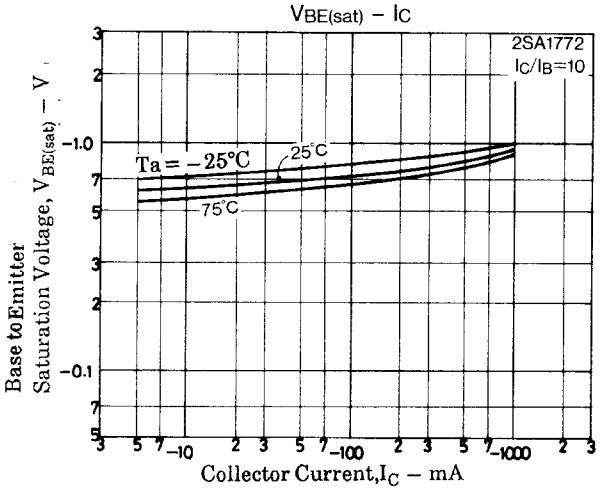
VCE(sat) – IC



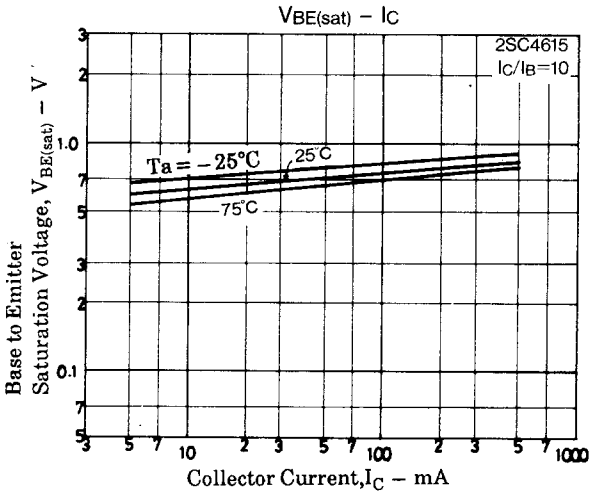
VCE(sat) – IC



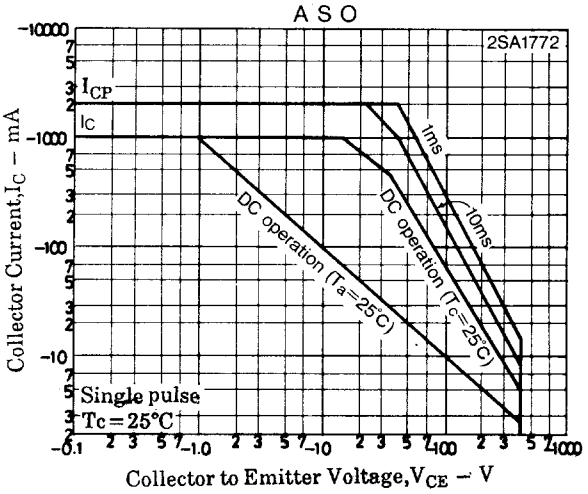
VBE(sat) – IC



VBE(sat) – IC



A S O



A S O