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



2SA1772/2SC4615

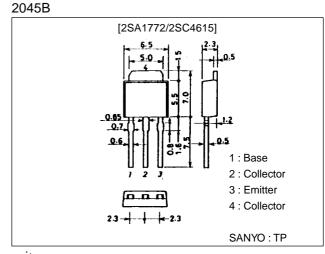
# **High-Voltage Driver Applications**

### Features

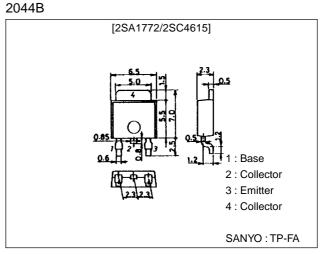
- · Large current capacity ( $I_C=1A$ ).
- $\cdot$  High breakdown votlage (V\_{CEO}{\geq}400V).

## Package Dimensions

unit:mm



# unit:mm



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### ():2SA1772

# **Specifications**

### Absolute Maximum Ratings at $Ta = 25^{\circ}C$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CBO</sub>		(-)400	V
Collector-to-Emitter Voltage	VCEO		(-)400	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		(–)5	V
Collector Current	IC		(–)1	A
Colletor Current (Pulse)	ICP		(-)2	A
Collector Dissipation	PC		1	W
		Tc=25°C	15	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

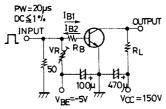
### Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions		Ratings		
			min	typ	max	Unit
Collector Cutoff Current	ICBO	V <sub>CB</sub> =(-)300V, I <sub>E</sub> =0			(–)1.0	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0			(–)1.0	μA
DC Current Gain	hFE	V <sub>CE</sub> =(-)10V, I <sub>C</sub> =(-)100mA	40*		200*	
Gain-Bandwidth Product	fT	V <sub>CE</sub> =(-)10V, I <sub>C</sub> =(-)50mA		(50)70		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =(-)30V, f=1MHz		(12)8		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =(-)200mA, I <sub>B</sub> =(-)20mA			(–)1.0	V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =(-)200mA, I <sub>B</sub> =(-)20mA			(–)1.0	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)</sub> CBO	I <sub>C</sub> =(-)10μA, I <sub>E</sub> =0	(–)400			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO		(–)400			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO		(–)5			V
Turn-ON Time	ton	See specified Test Circuit		(0.25)		μs
				0.11		μs
Storage Time	tstg	See specified Test Circuit		(3.0)		μs
				4.0		μs
Fall Time	t <sub>f</sub>	See specified Test Circuit		(0.3)		μs
				0.65		μs

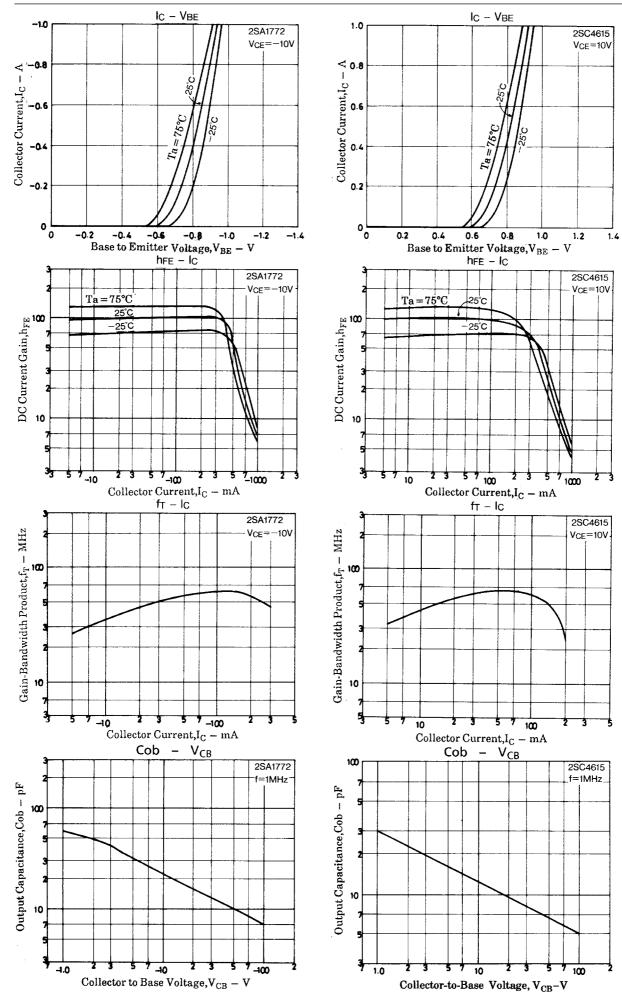
 $\ast$  : The 2SA1772/2SC4615 are classified by 100mA  $h_{FE}$  as follows :

40 C 80 60 D 120 100 E 200

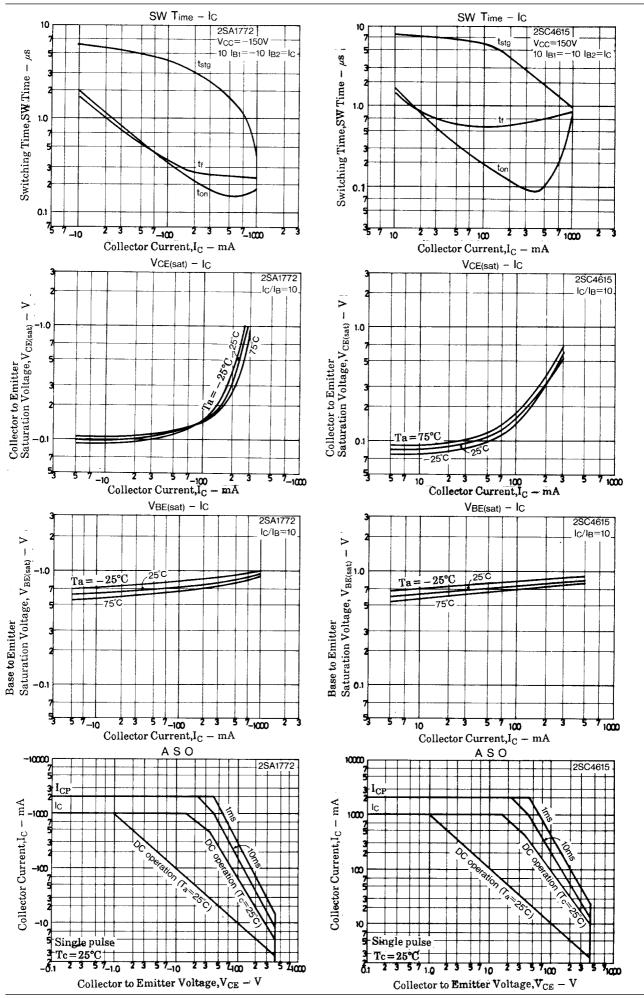
#### **Switching Time Test Circuit**

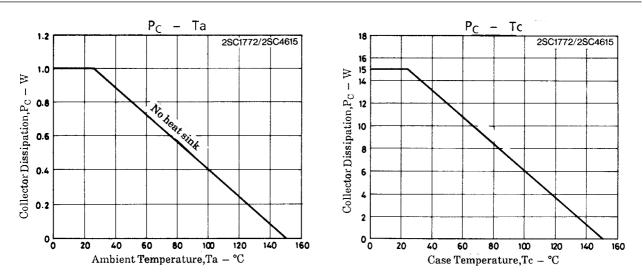


 $10I_{B1} = -10I_{B2} = I_C = 200 \text{mA}$   $R_L = 750\Omega$ ,  $R_B = 50\Omega$ , at  $I_C = 200 \text{mA}$ (For PNP, the polarity is reversed.) Unit (resistance :  $\Omega$ , capacitance : F)



### 2SA1772/2SC4615





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