



# 2SA1773/2SC4616

## High-Voltage Driver Applications

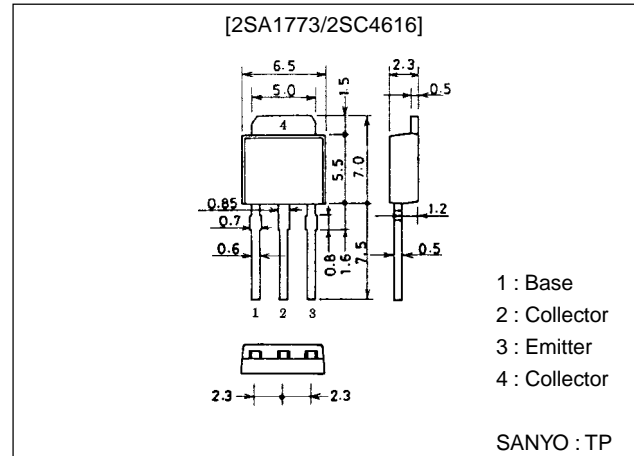
### Features

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

### Package Dimensions

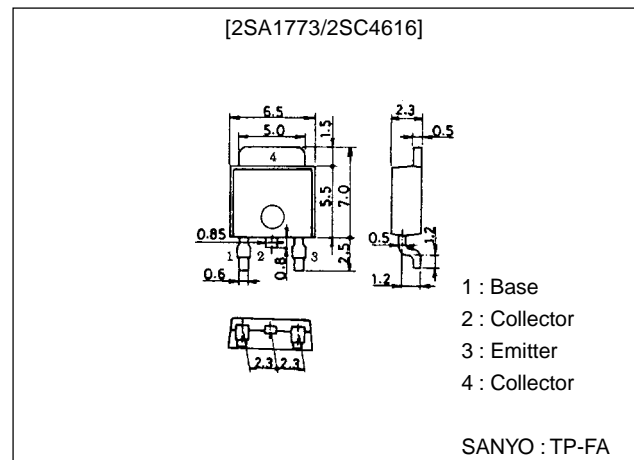
unit:mm

2045A



unit:mm

2044A



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# 2SA1773/2SC4616

( ) : 2SA1773

## Specifications

### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-)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
		$T_c=25^\circ\text{C}$	15	W
Junction Temperature	$T_j$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

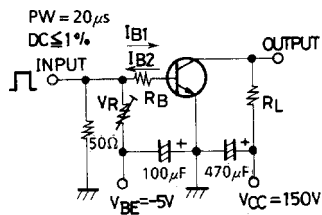
### Electrical Characteristics at Ta = 25°C

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

\* : The 2SA1773/2SC4616 are classified by 100mA  $h_{FE}$  as follows :

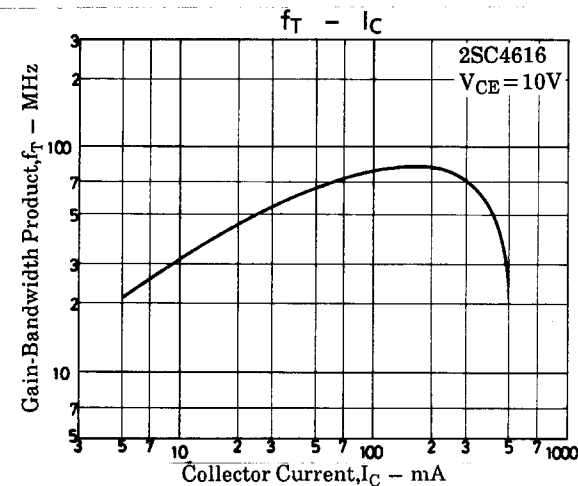
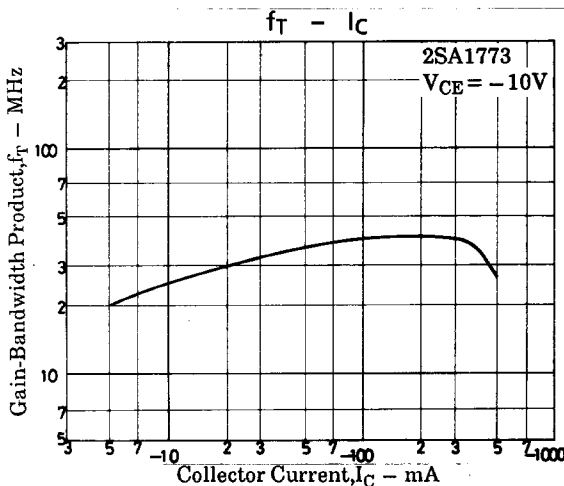
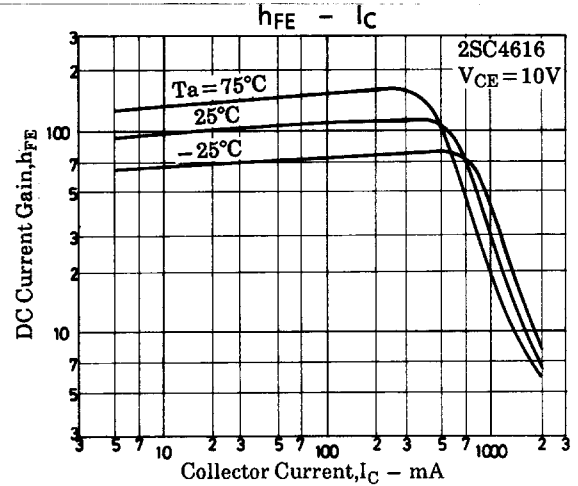
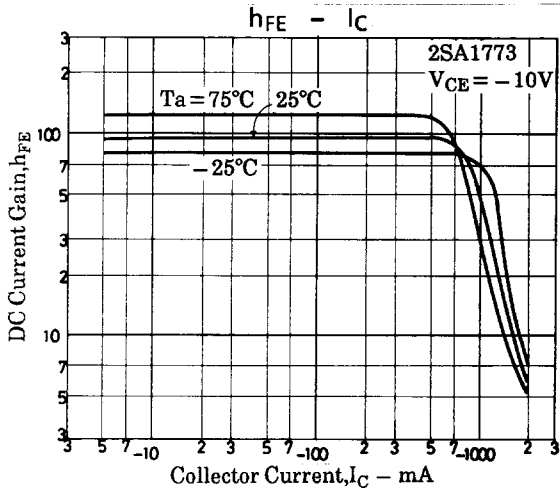
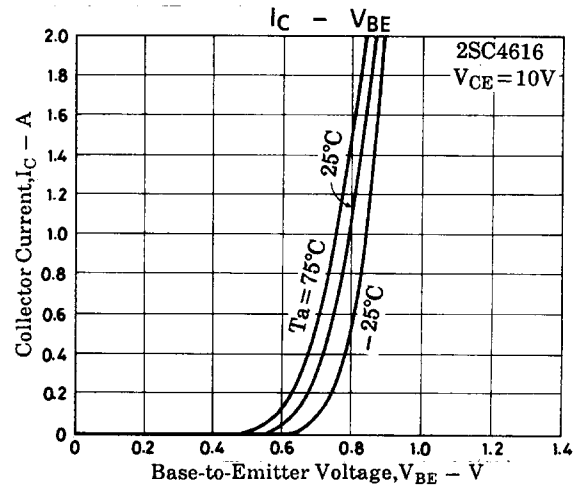
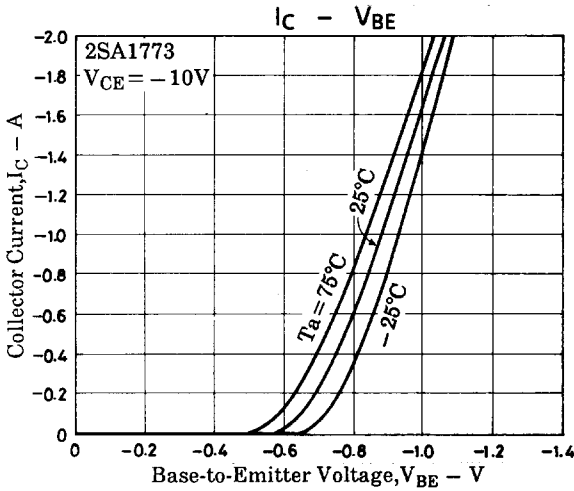
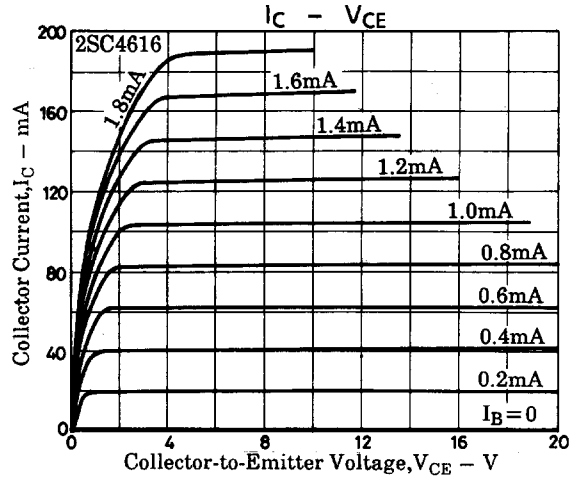
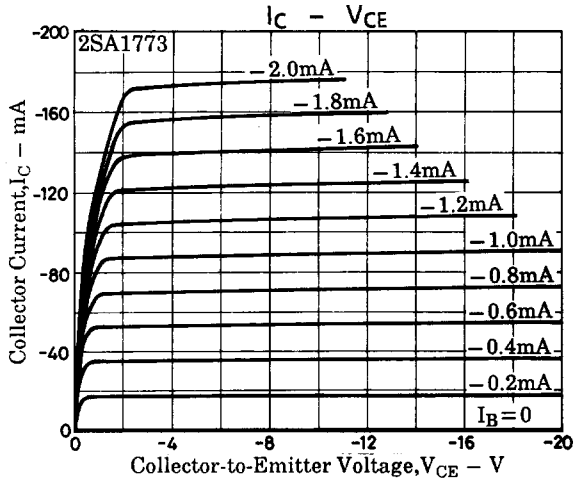
40	C	80	60	D	120	100	E	200
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### Switching Time Test Circuit

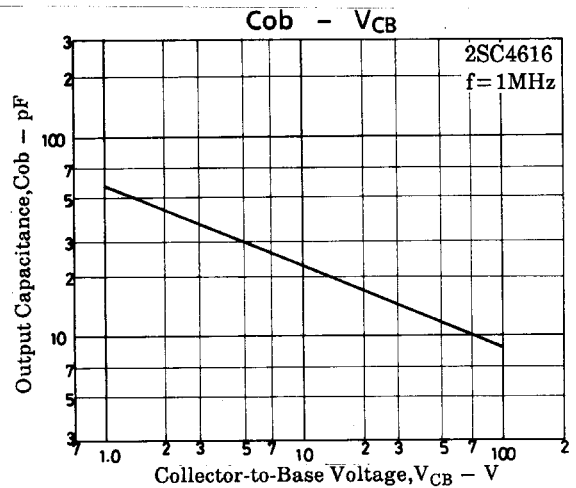
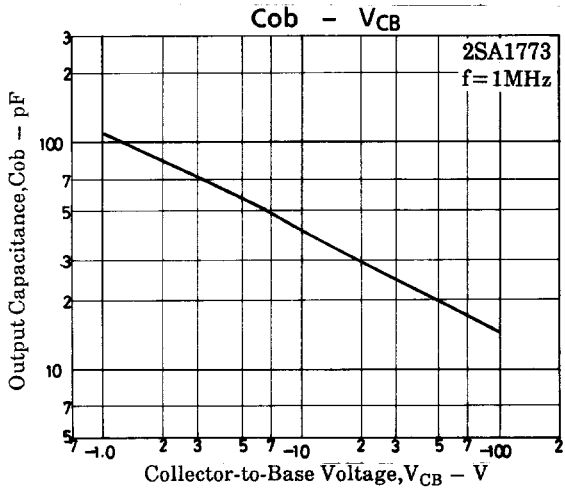
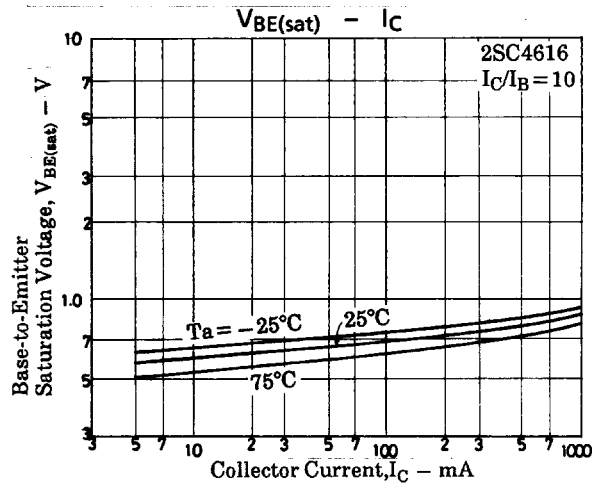
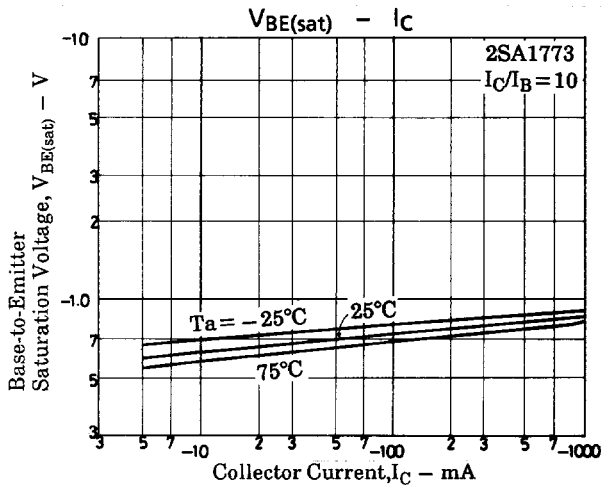
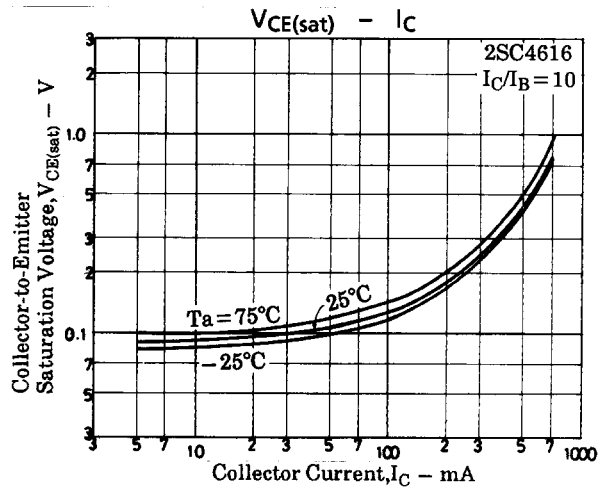
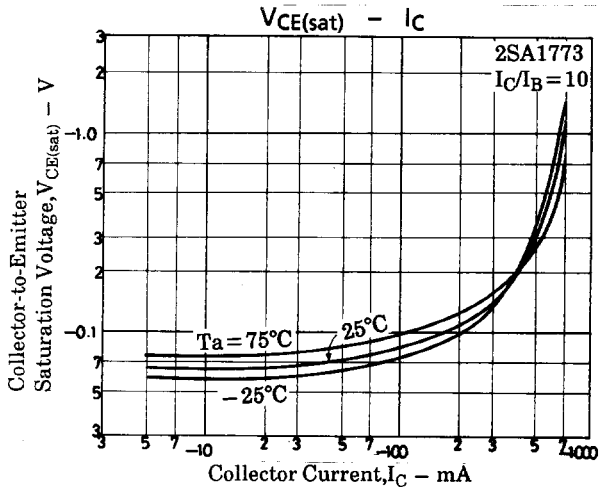
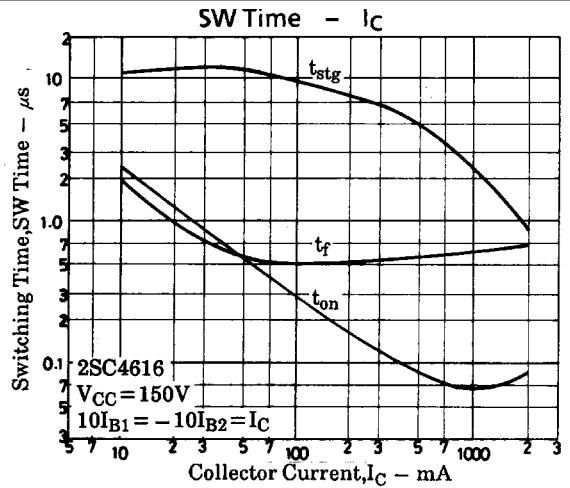
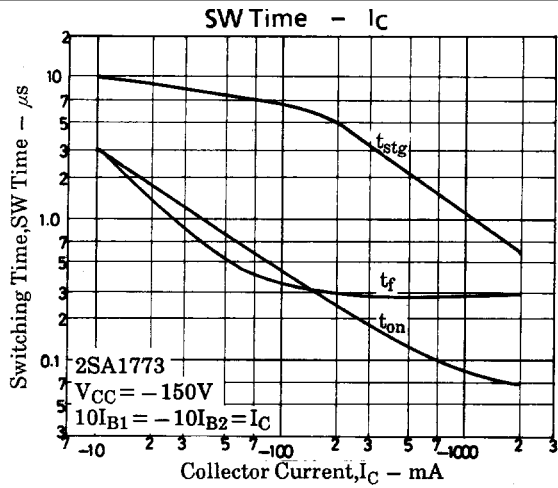


$10I_{B1} = -10I_{B2} = I_C = 500\text{mA}$   
 $R_L = 300\Omega, R_B = 20\Omega, \text{ at } I_C = 500\text{mA}$   
 Unit (resistance :  $\Omega$ , capacitance : F)

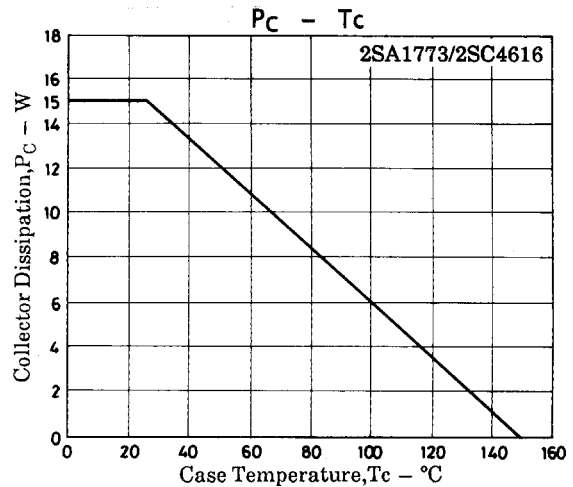
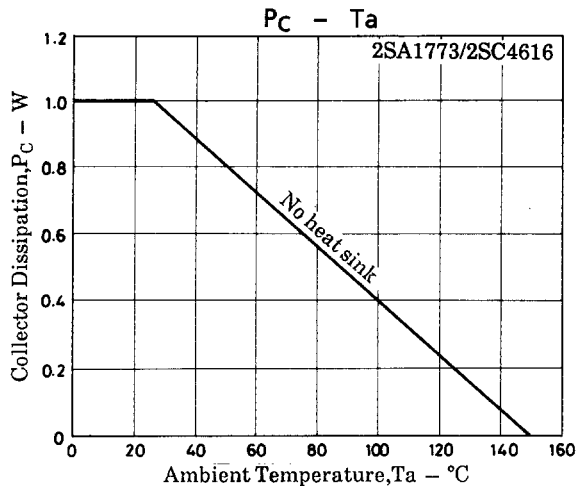
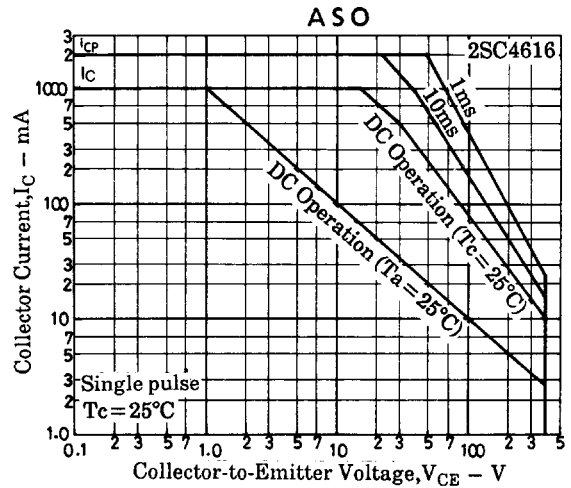
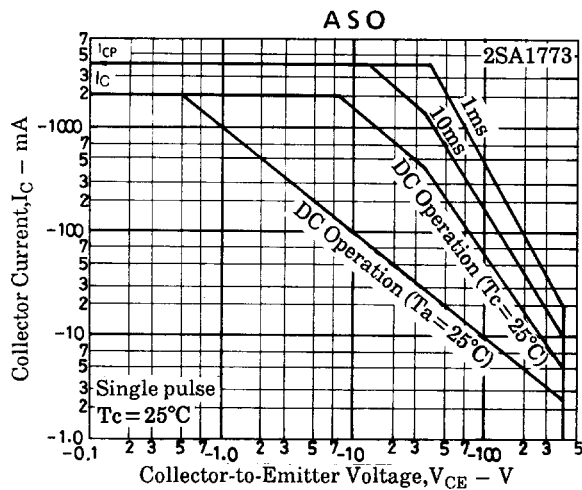
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