

SANYO**2SA1768/2SC4612****High-Voltage Switching Applications****Applicaitons**

- Color TV sound output, converter, inverter.

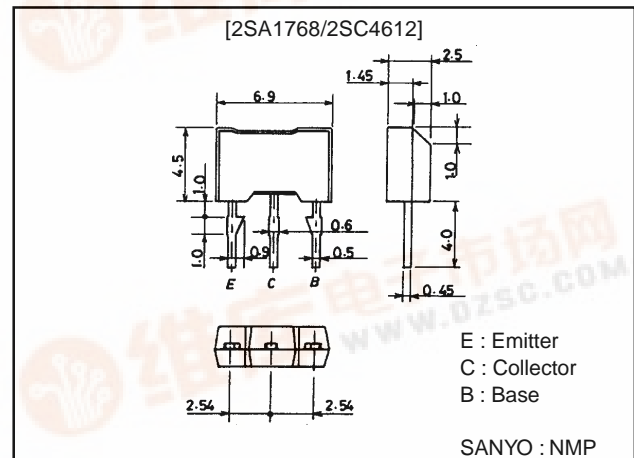
Features

- Adoption of MBIT process.
- High breakdown voltage, large current capacity.
- Fast switching speed.

Package Dimensions

unit:mm

2064



() : 2SA1768

Specifications**Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-)180	V
Collector-to-Emitter Voltage	V_{CEO}		(-)160	V
Emitter-to-Base Voltage	V_{EBO}		(-)6	V
Collector Current	I_C		(-)0.7	mA
Collector Current (Pulse)	I_{CP}		(-)1.5	mA
Collector Dissipation	P_C		1	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}	$V_{CB}=(-)120V, I_E=0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4V, I_C=0$			-0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=(-)5V, I_C=(-)100mA$	100*		400*	
	h_{FE2}	$V_{CE}=(-)5V, I_C=(-)10mA$	90			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10V, I_C=-50mA$		120		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(11)8		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=250mA, I_B=(-)25mA$		(-0.2)	(-0.5)	V
				0.12	0.4	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=250mA, I_B=(-)25mA$		(-)0.85	(-)1.2	V

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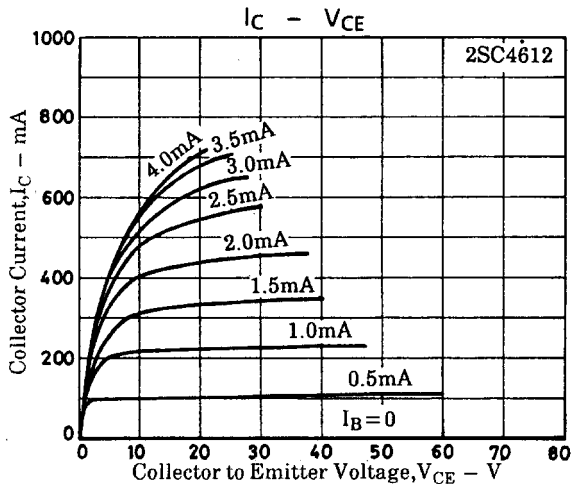
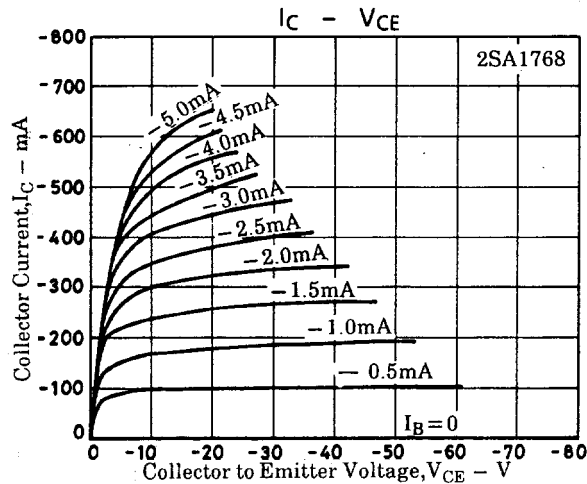
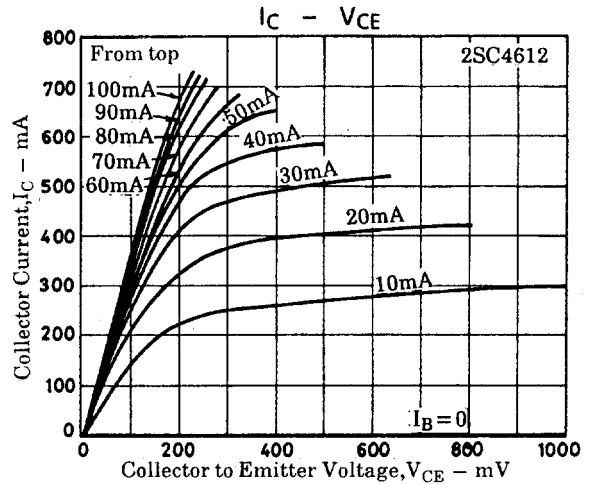
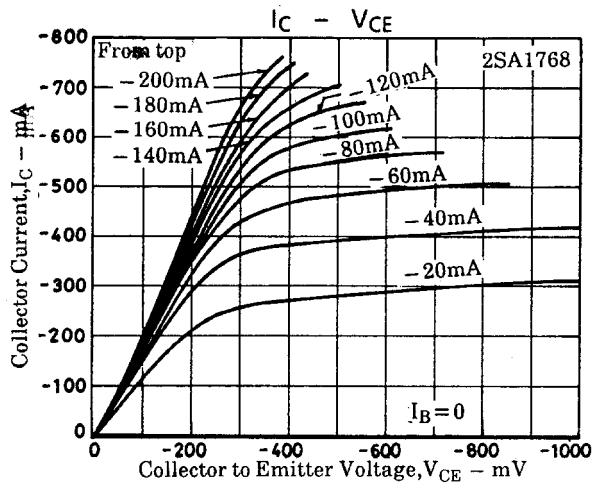
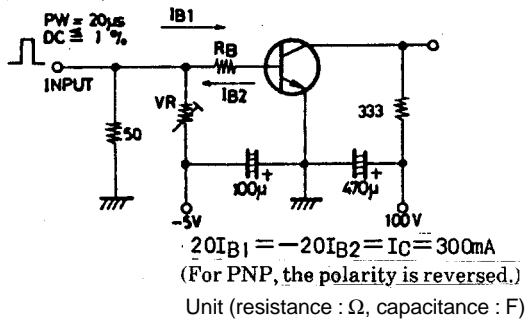
2SA1768/2SC4612

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	(-)180			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	(-)160			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6			V
Turn-ON Time	t_{on}	See specified Test Circuit		(60)50		ns
Storage Time	t_{stg}	See specified Test Circuit		(900)		ns
				1000		ns
Fall Time	t_f	See specified Test Circuit		(60)60		ns

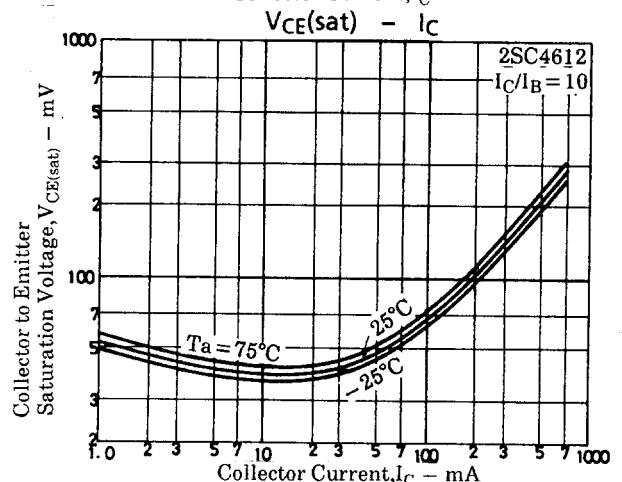
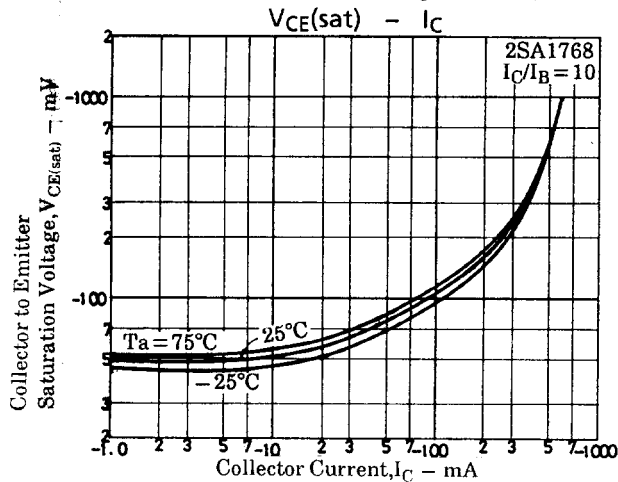
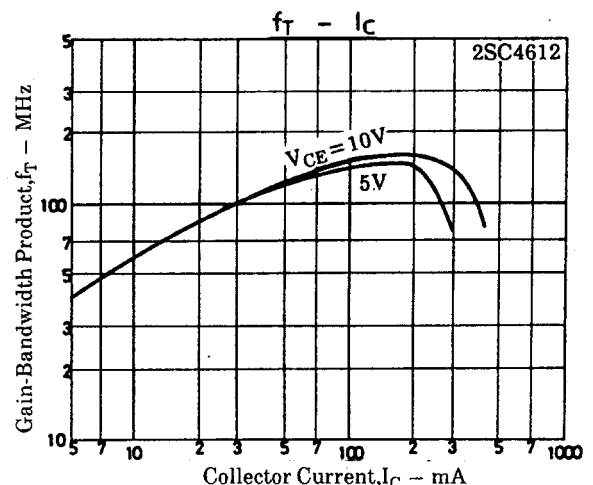
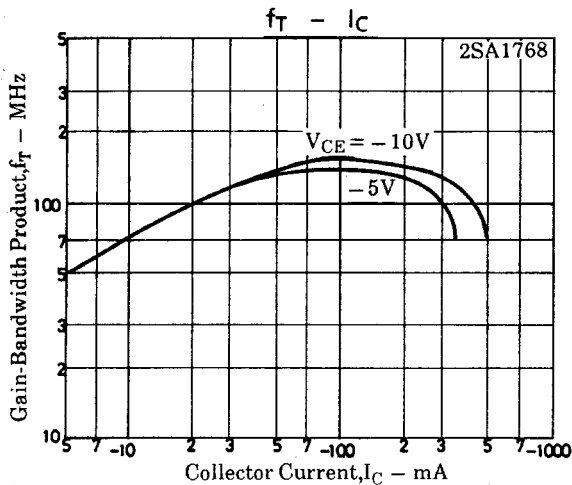
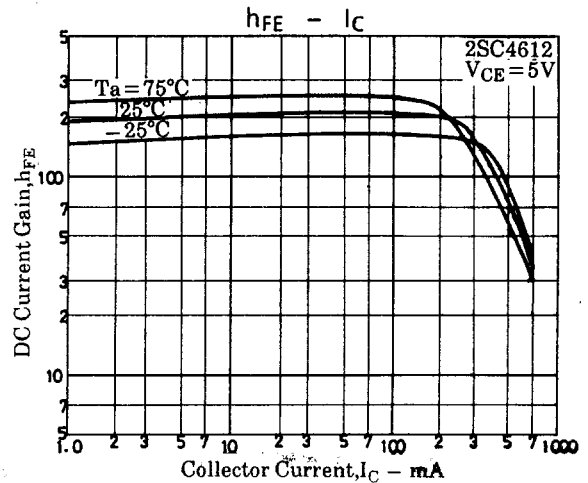
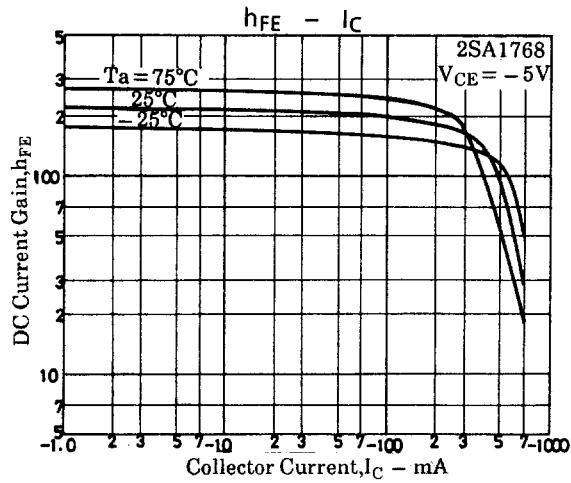
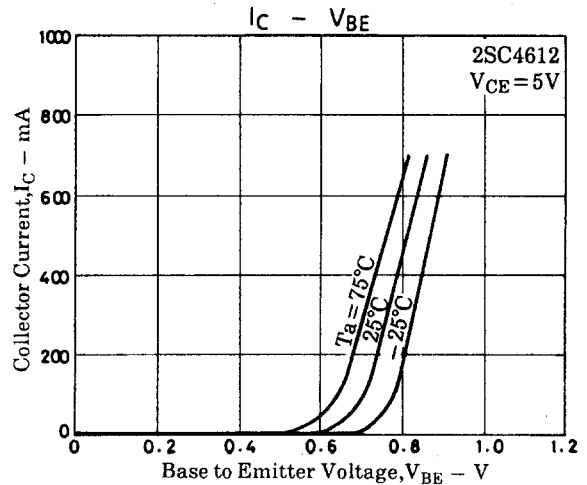
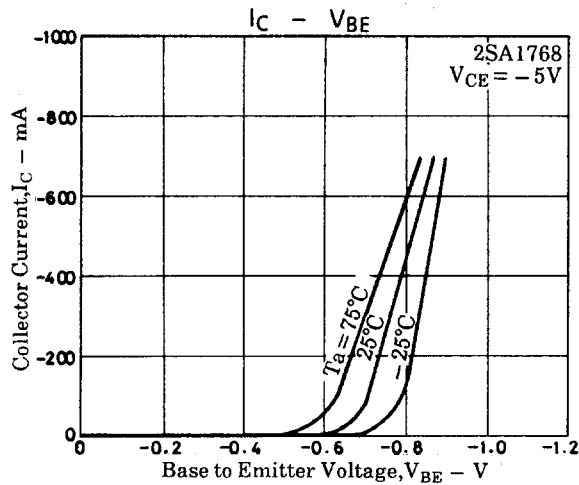
* : The 2SA1768/2SC4612 are classified by 100mA h_{FE} as follows :

100	R	200	140	S	280	200	T	400
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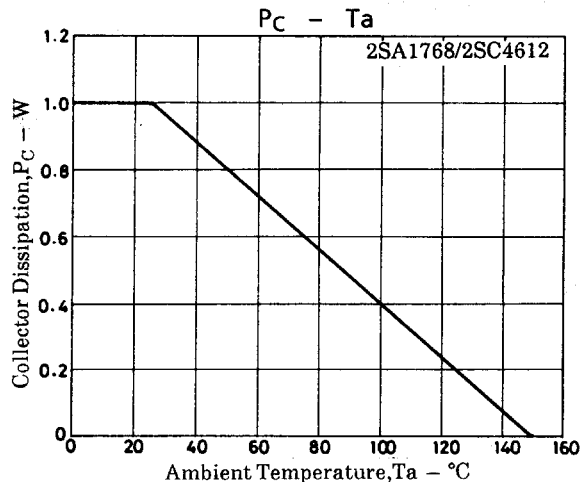
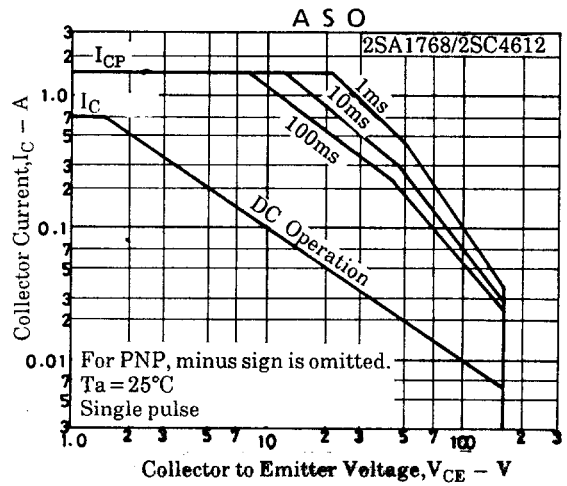
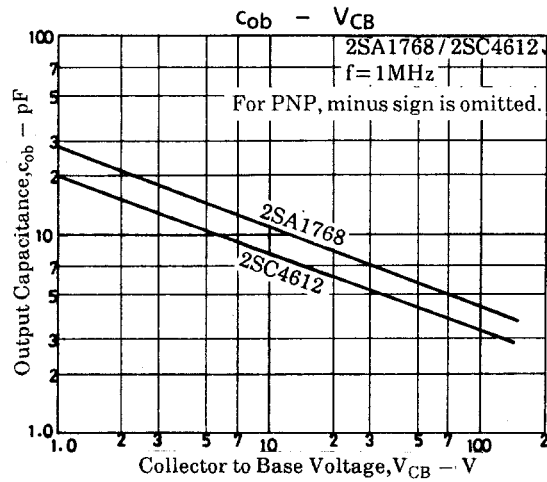
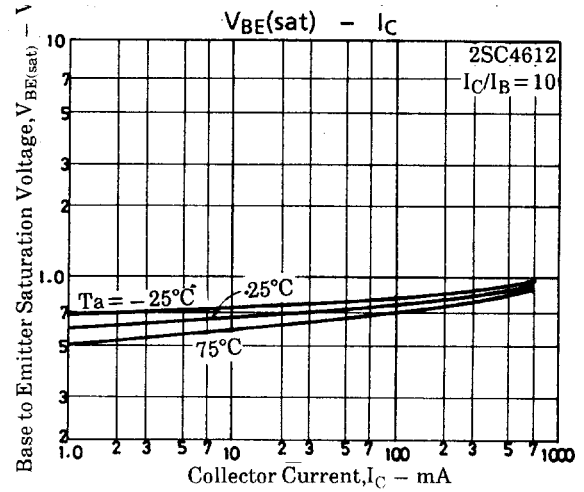
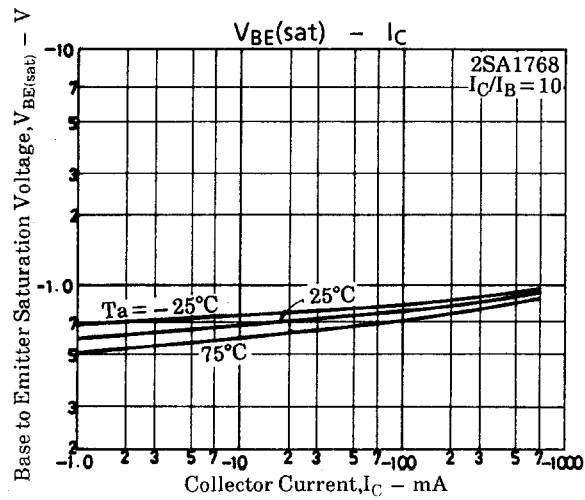
Switching Time Test Circuit



2SA1768/2SC4612



2SA1768/2SC4612



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