

SANYO

No.3582

2SA1768/2SC4612

PNP/NPN Epitaxial Planar Silicon Transistors

High-Voltage Switching Applications

Applications

- Color TV sound output, converter, inverter

Features

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

(): 2SA1768

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

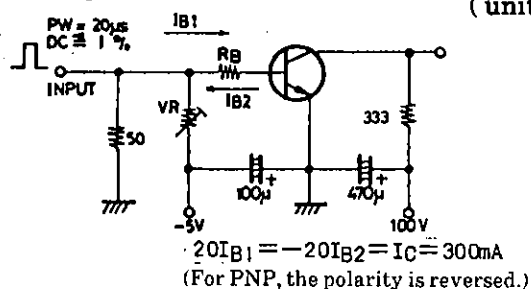
			unit
Collector to Base Voltage	V_{CB0}	(-)180	V
Collector to Emitter Voltage	V_{CEO}	(-)160	V
Emitter to Base Voltage	V_{EBO}	(-)6	V
Collector Current	I_C	(-)0.7	A
Collector Current(Pulse)	I_{CP}	(-)1.5	A
Collector Dissipation	P_C	1	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

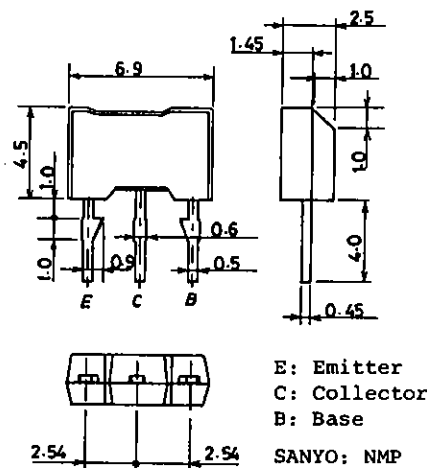
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)120\text{V}, I_E = 0$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)0.1	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE} = (-)5\text{V}, I_C = (-)100\text{mA}$	100*		400*	
	$h_{FE}(2)$	$V_{CE} = (-)5\text{V}, I_C = (-)10\text{mA}$	90			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$		120		MHz
Output Capacitance	c_{ob}	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(11)8		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 250\text{mA}, I_B = (-)25\text{mA}$	(- 0.2)0.12	(- 0.5)0.4		V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 250\text{mA}, I_B = (-)25\text{mA}$	(-)0.85	(-)1.2		V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	(-)180			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	(-)160			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	6			V
Turn-ON Time	t_{on}	See specified Test Circuit.		(60)50		ns
Storage Time	t_{stg}	"		(900)1000		ns
Fall Time	t_f	"		(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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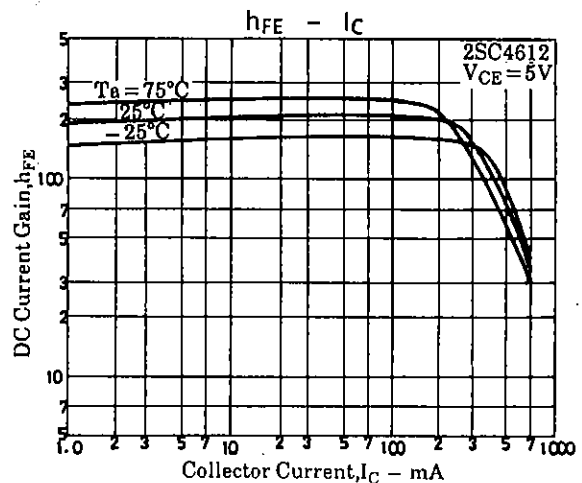
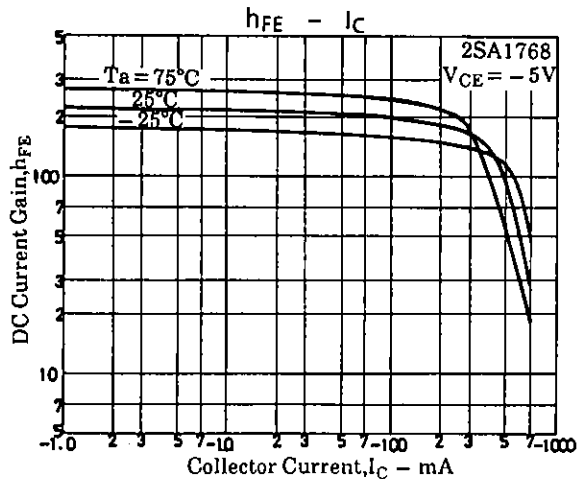
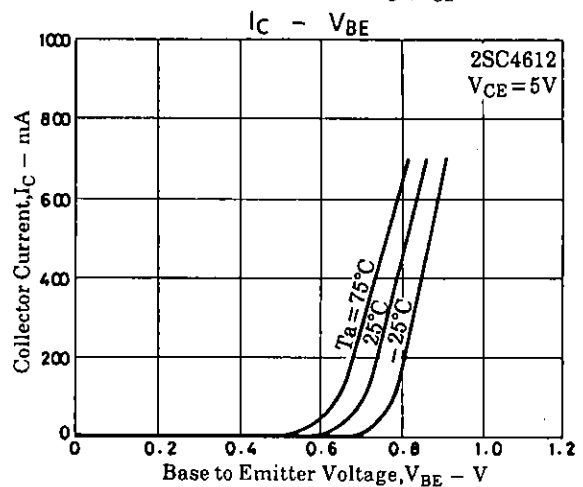
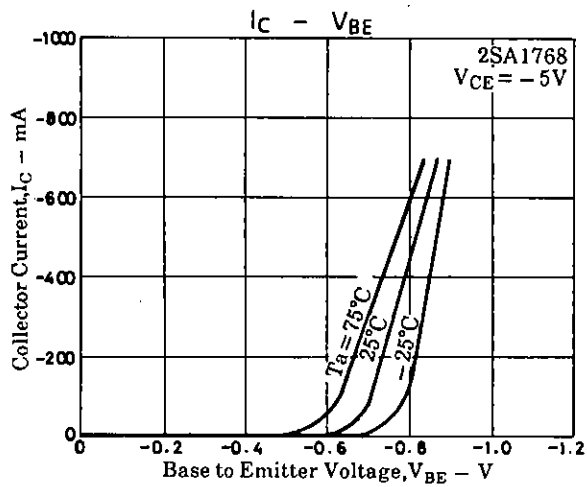
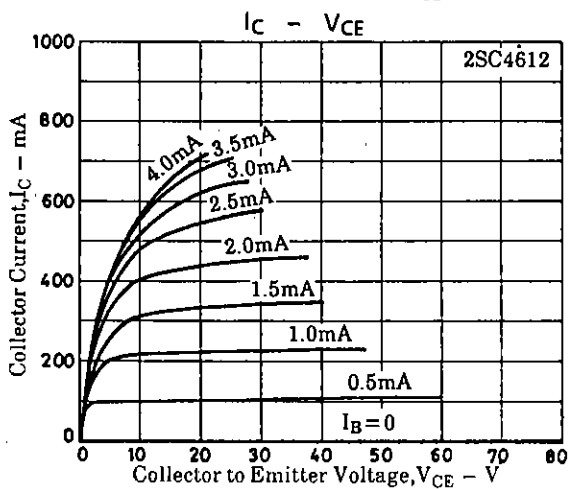
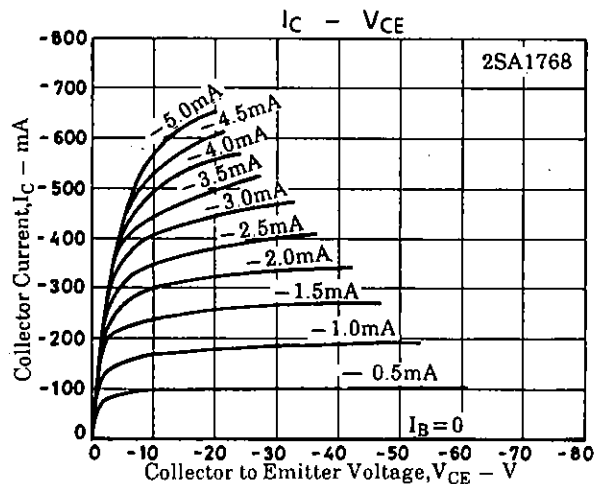
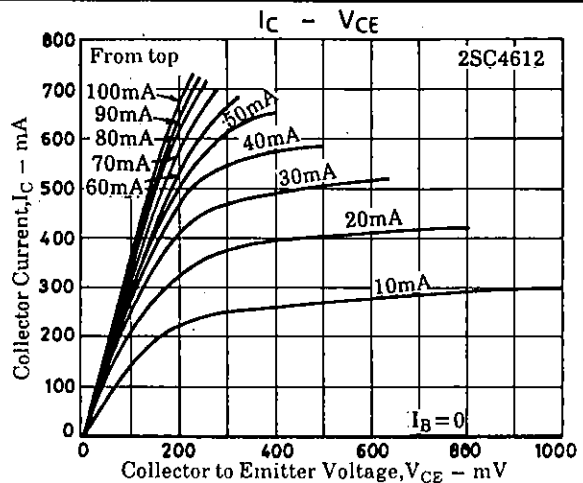
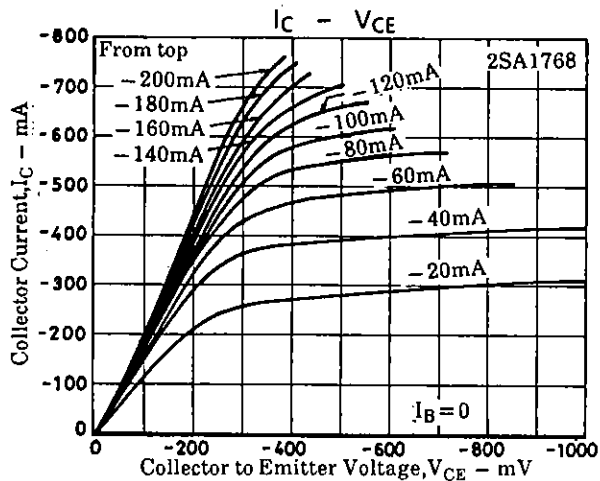
Switching Time Test Circuit

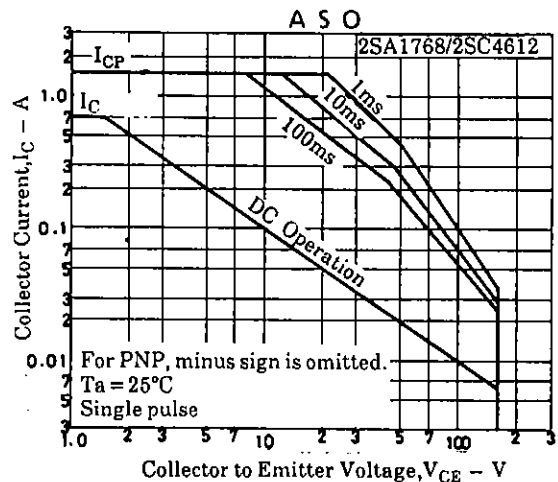
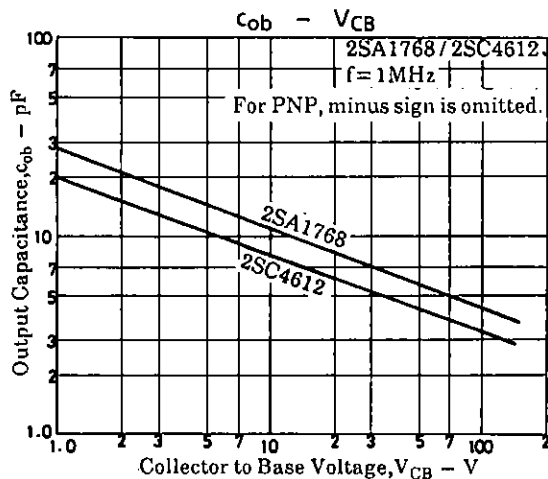
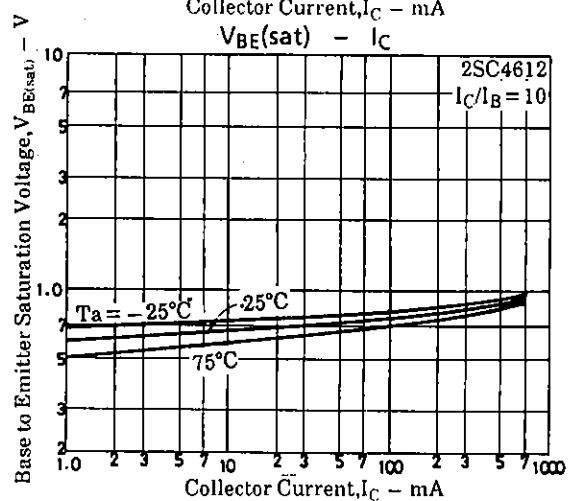
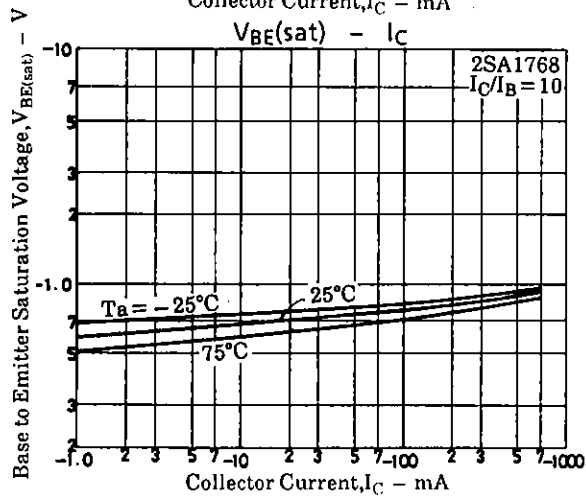
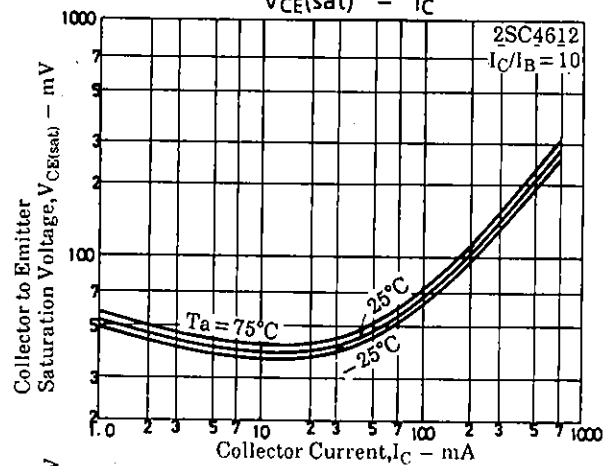
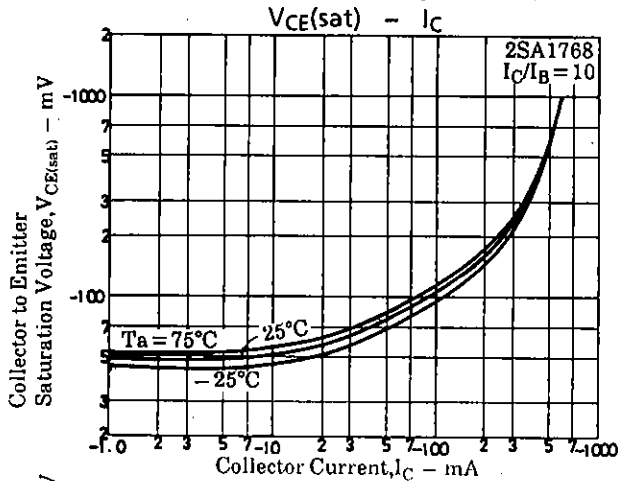
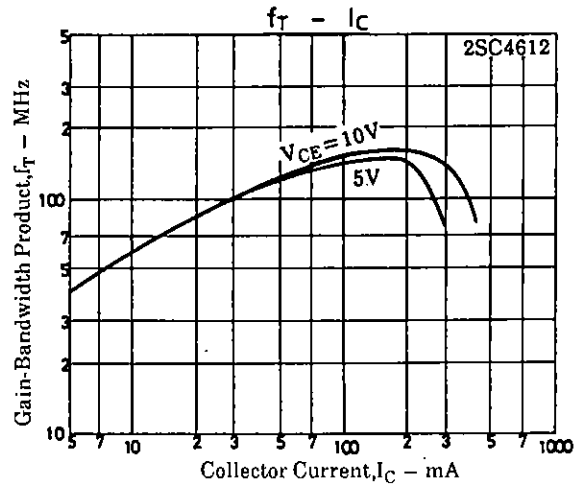
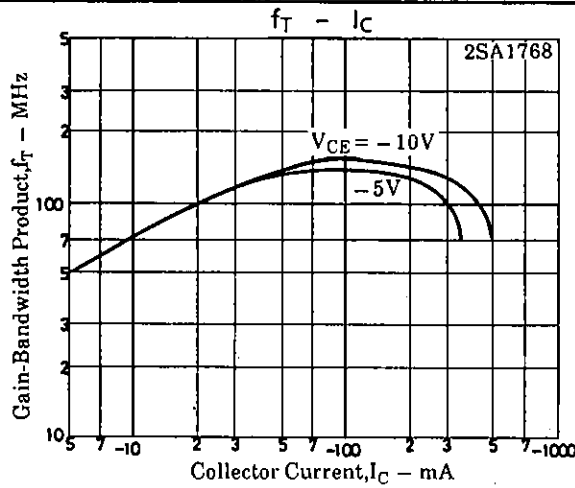
$20I_{B1} = -20I_{B2} = I_C = 300\text{mA}$
(For PNP, the polarity is reversed.)

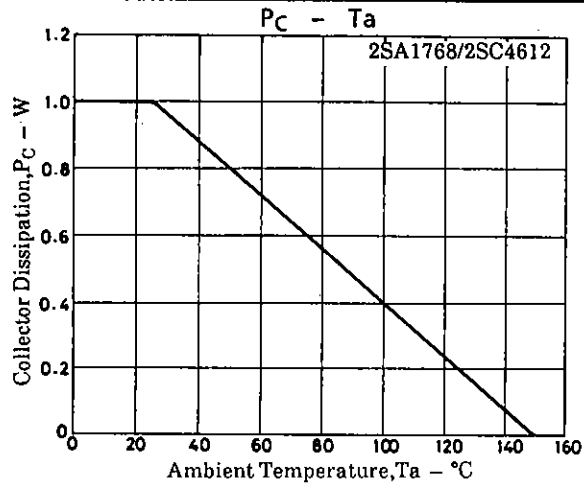
Unit(Resistance : Ω , Capacitance : F)**Package Dimensions 2064**
(unit: mm)

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

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