



2SA1749/2SC4564

High-Definition CRT Display Video Output Applications

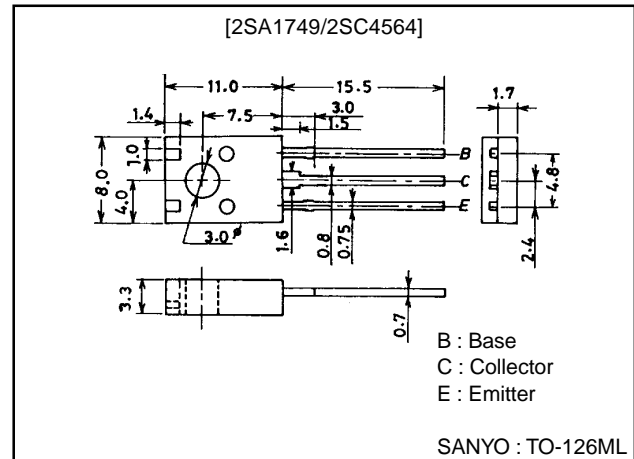
Features

- High f_T : $f_T=400\text{MHz}$ (typ).
- High breakdown voltage : $V_{CEO} \geq 200\text{V}$ min.
- High current.
- Small reverse transfer capacitance and excellent high frequency characteristics :
 $C_{re}=3.4\text{pF}$ (NPN) , 4.2pF (PNP).
- Complementary 2SA1749 and 2SC4564 types.
- Adoption of FBET process.

Package Dimensions

unit:mm

2042A



() : 2SA1749

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-)200	V
Collector-to-Emitter Voltage	V_{CEO}		(-)200	V
Emitter-to-Base Voltage	V_{EBO}		(-)3	V
Collector Current	I_C		(-)300	mA
Collector Current (Pulse)	I_{CP}		(-)600	mA
Collector Dissipation	P_C		1.3	W
		$T_c=25^\circ\text{C}$	10	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)150\text{V}$, $I_E=0$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)2\text{V}$, $I_C=0$			(-)1.0	μA
DC Current Gain	h_{FE1}	$V_{CE}=(-)10\text{V}$, $I_C=(-)50\text{mA}$	40*		320*	
	h_{FE2}	$V_{CE}=(-)10\text{V}$, $I_C=(-)250\text{mA}$	20			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)30\text{V}$, $I_C=(-)100\text{mA}$		400		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)30\text{V}$, $f=1\text{MHz}$		(5.0)		pF
				4.2		pF

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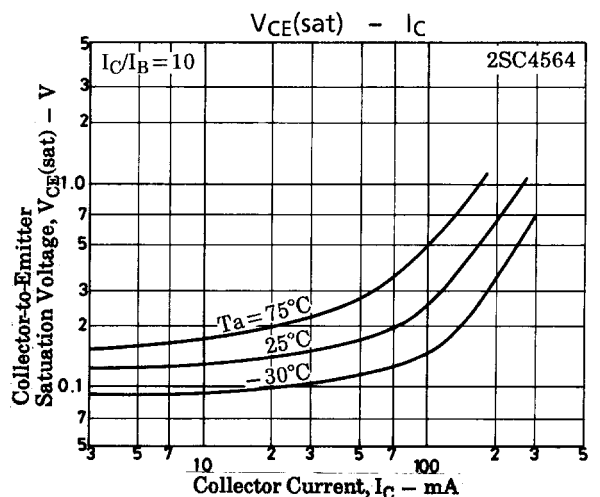
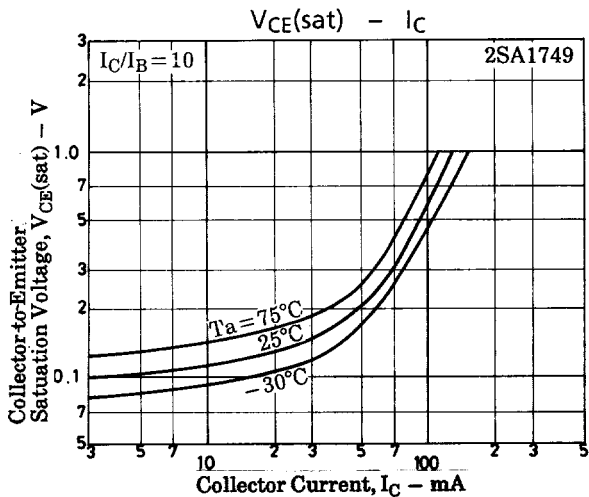
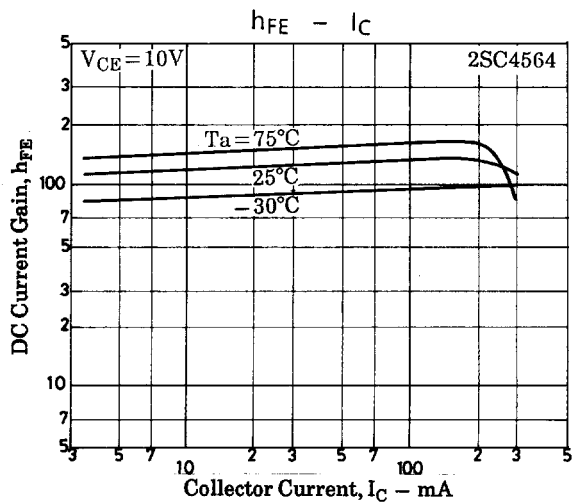
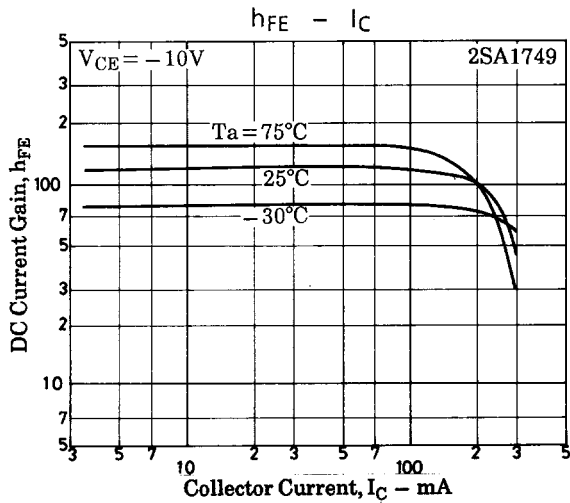
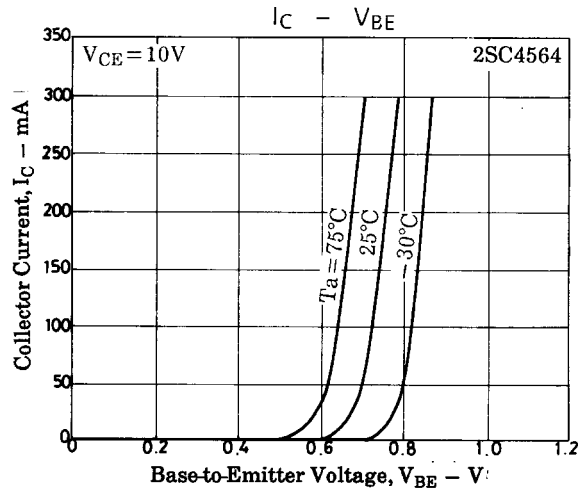
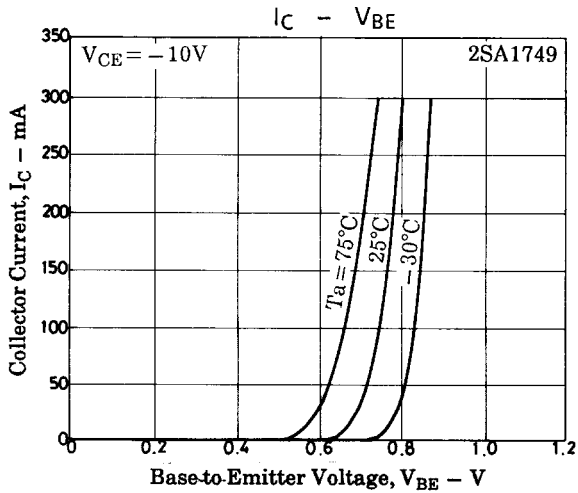
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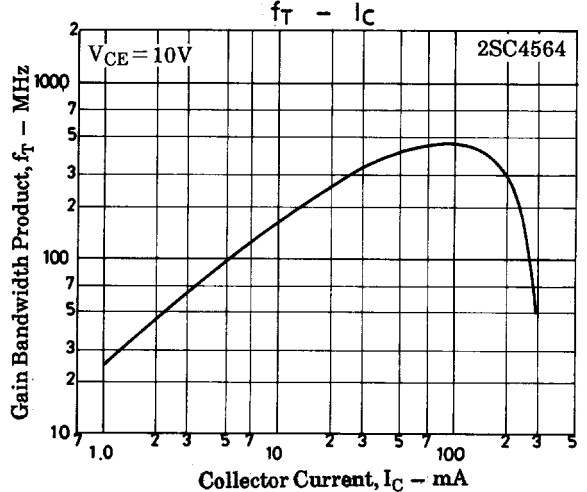
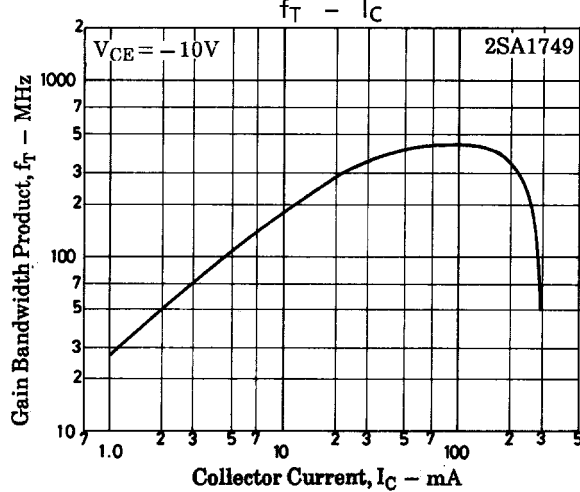
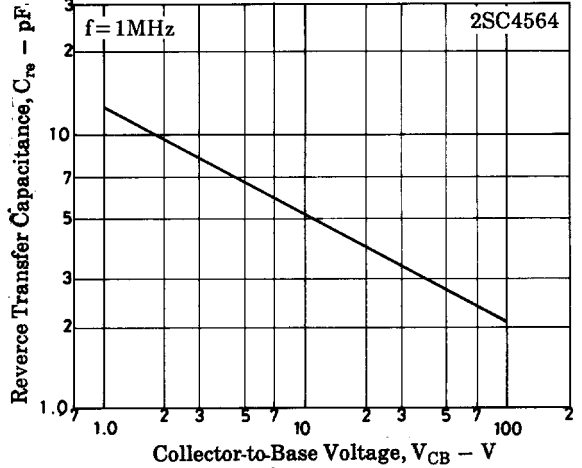
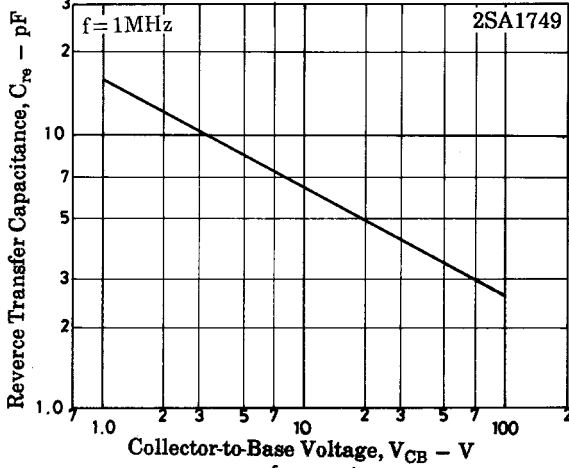
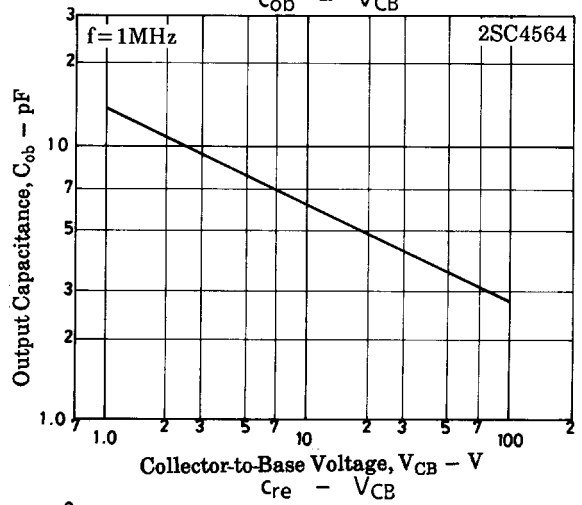
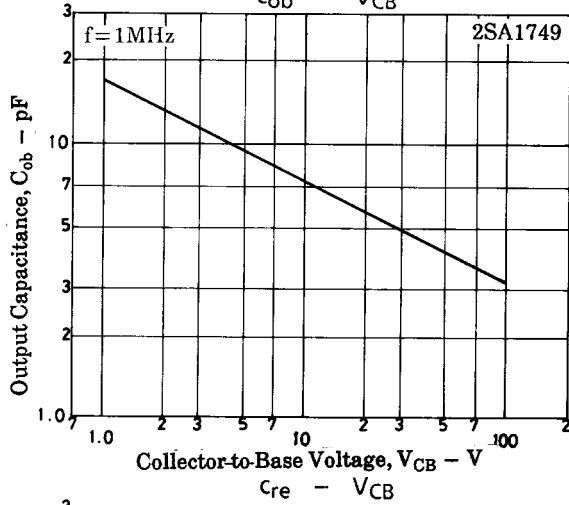
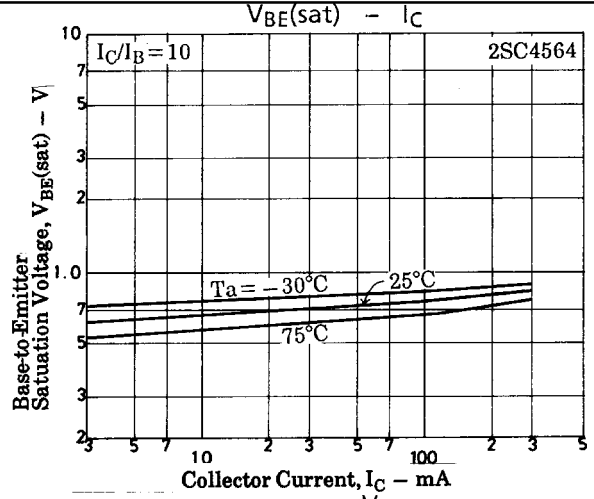
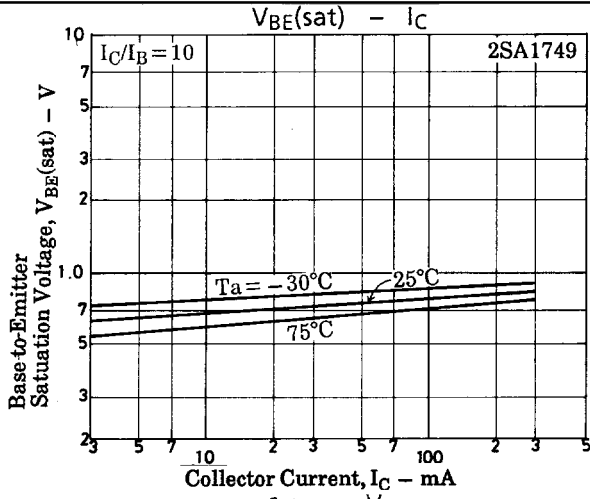
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Transfer Capacitance	C_{re}	$V_{CB} = (-)30V, f = 1MHz$		(4.2)		pF
				3.4		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)50mA, I_B = (-)5mA$			(-1.0)	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)50mA, I_B = (-)5mA$			(-1.0)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-200)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-200)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)100\mu A, I_C = 0$	(-3)			V

* : The 2SA1749/2SC4564 are classified by 50mA h_{FE} as follows :

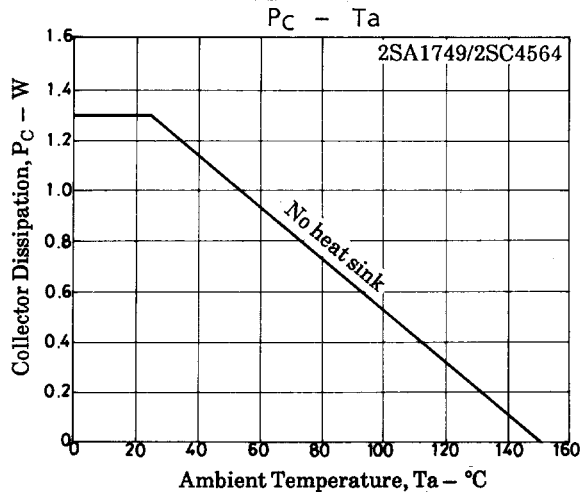
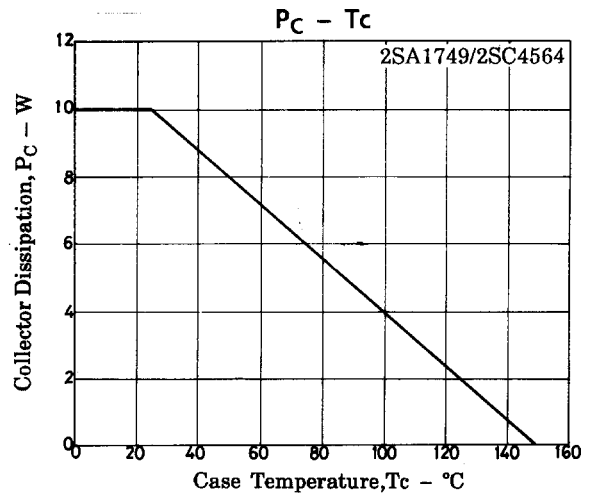
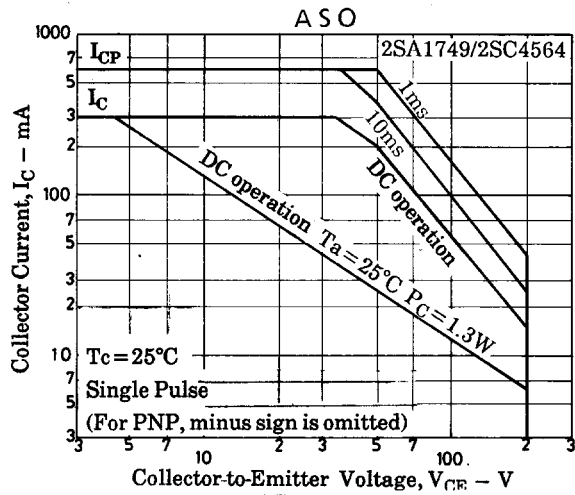
40	C	80	60	D	120	100	E	200	160	F	320
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2SA1749/2SC4564



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