

**SANYO**

No.3643

**2SA1749/2SC4564**

PNP/NPN Epitaxial Planar Silicon Transistors  
 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),  $4.2\text{pF}$  (PNP)]
- Complementary 2SA1749 and 2SC4564 types
- Adoption of FBET process

( ) : 2SA1749

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

			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
Peak Collector Current	$i_{cp}$	(-)600	mA
Collector Dissipation	$P_C$	1.3	W
		10	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

$T_c = 25^\circ\text{C}$

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

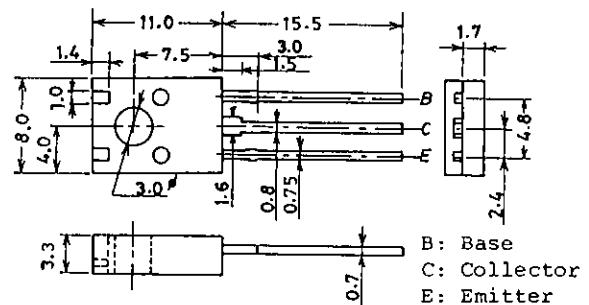
			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)150\text{V}, I_E = 0$			(-)0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)2\text{V}, I_C = 0$			(-)1.0	$\mu\text{A}$
DC Current Gain	$h_{FE}(1)$	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$	40*		320*	
	$h_{FE}(2)$	$V_{CE} = (-)10\text{V}, I_C = (-)250\text{mA}$	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)4.2		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		(4.2)3.4		pF

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\* : 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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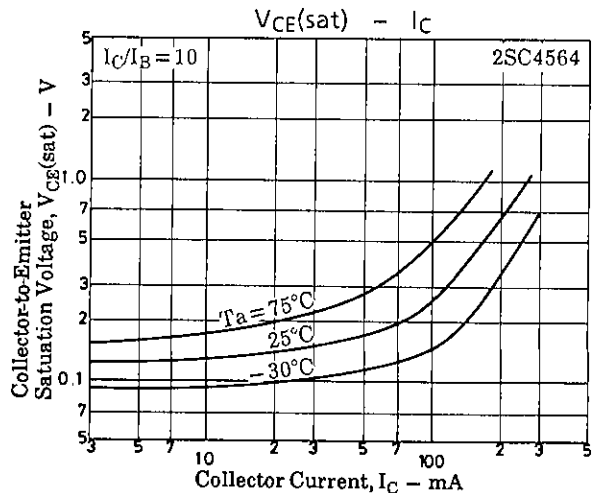
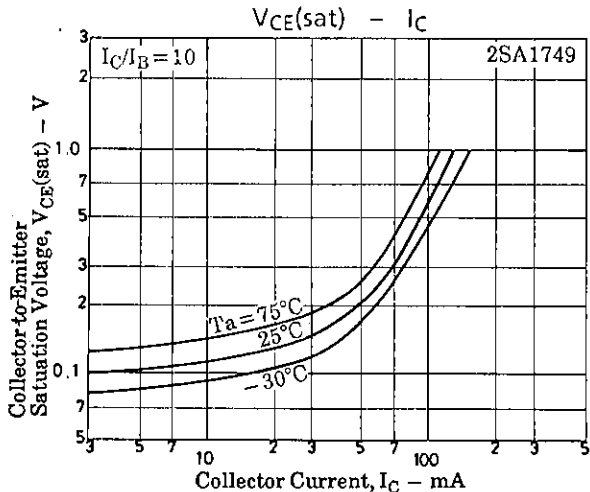
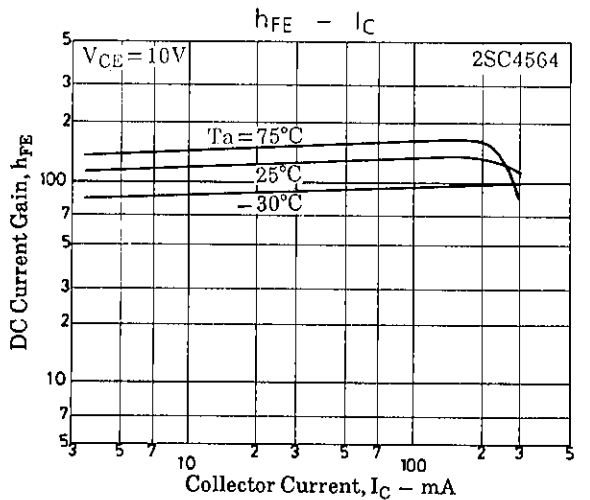
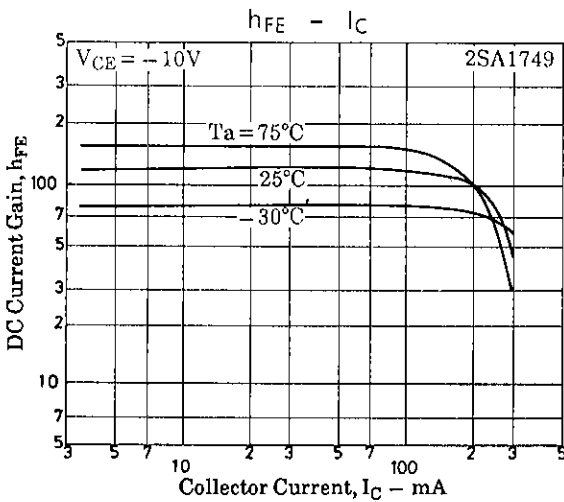
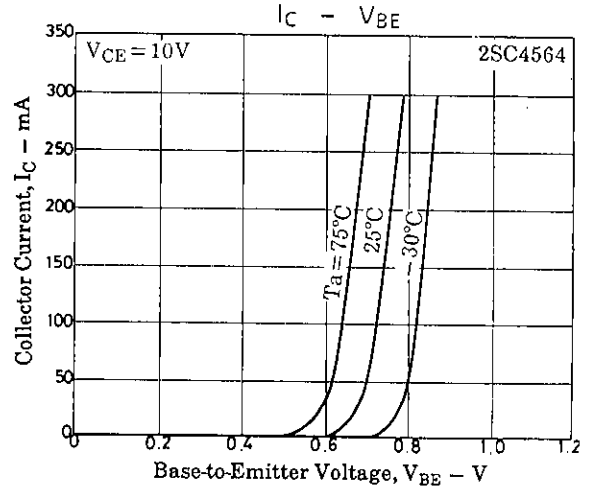
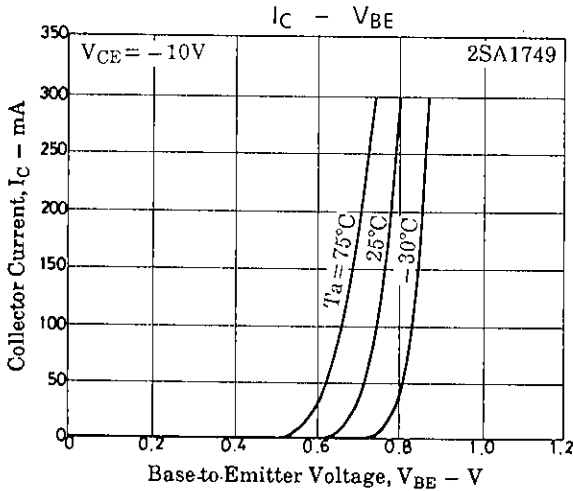
**Package Dimensions 2042A**  
(unit : mm)



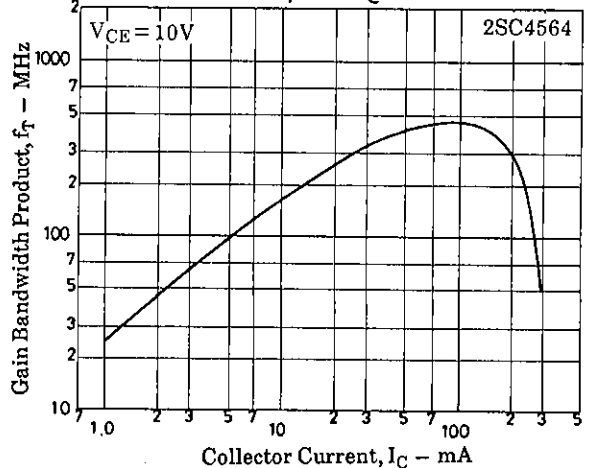
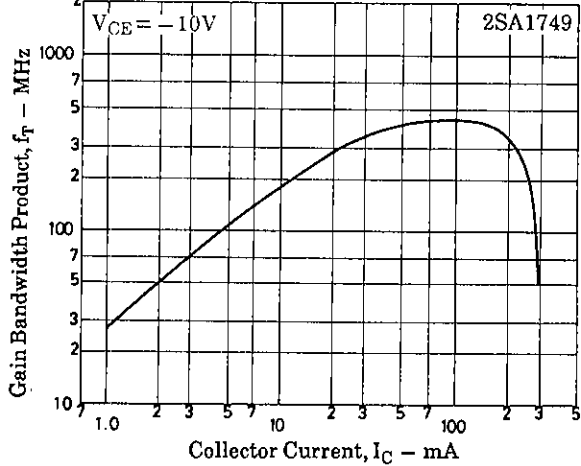
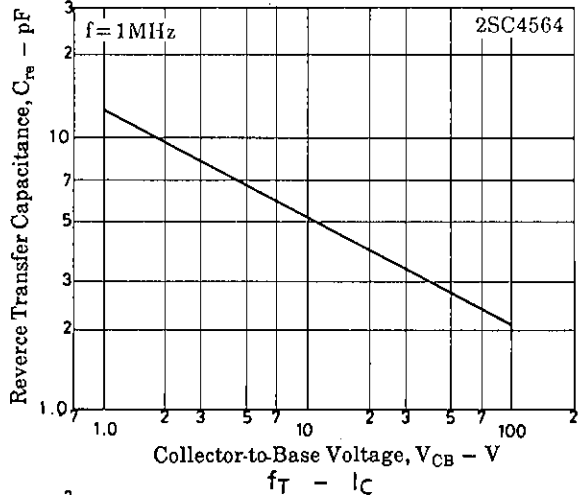
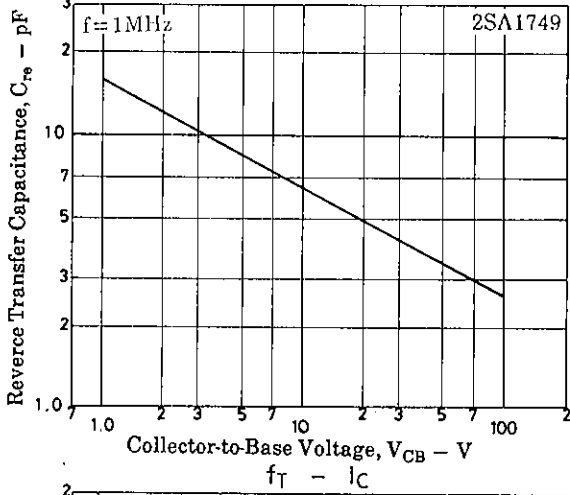
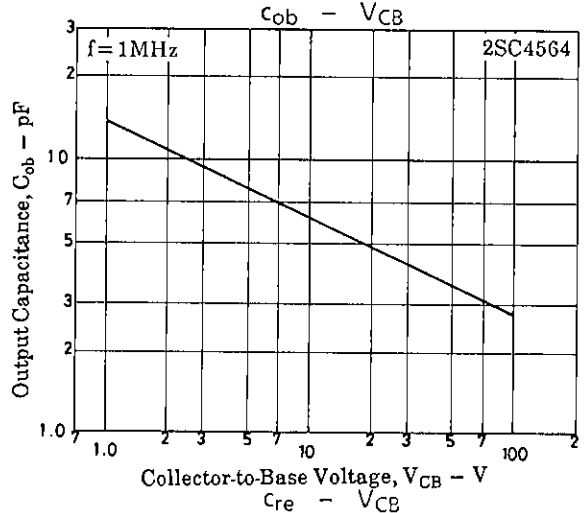
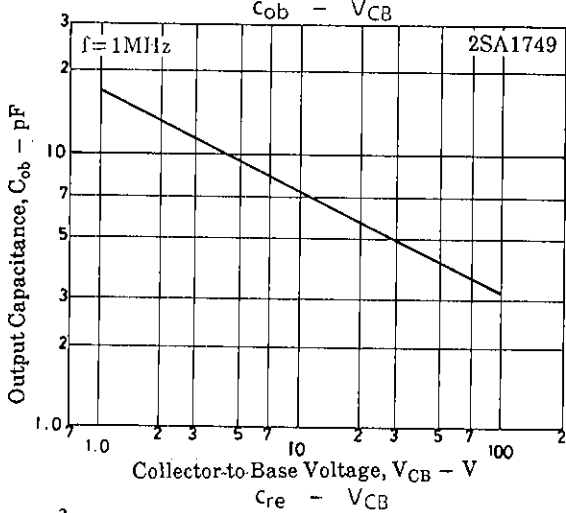
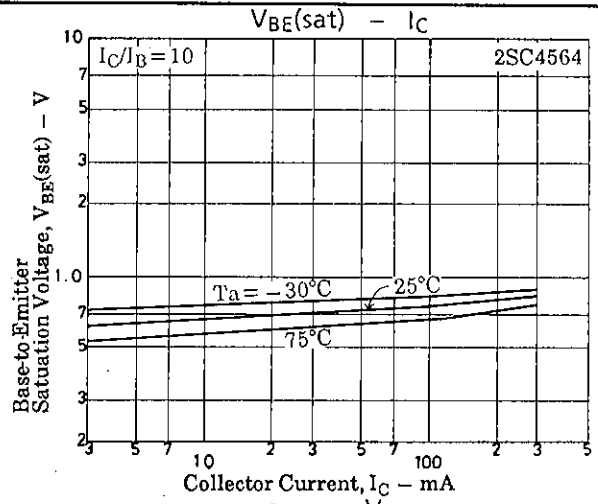
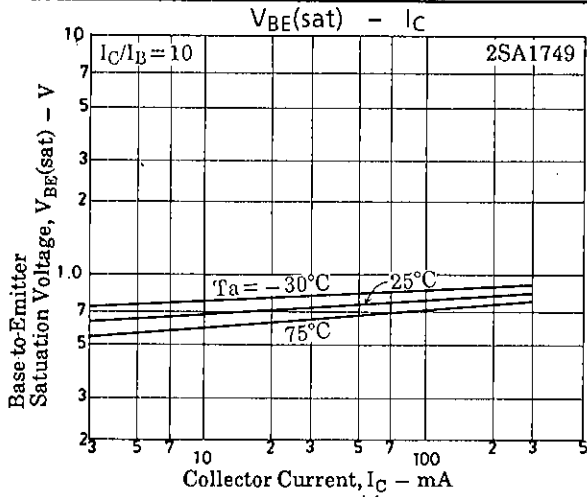
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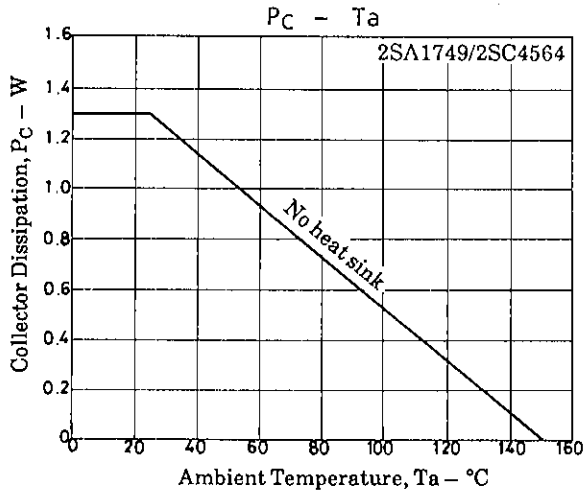
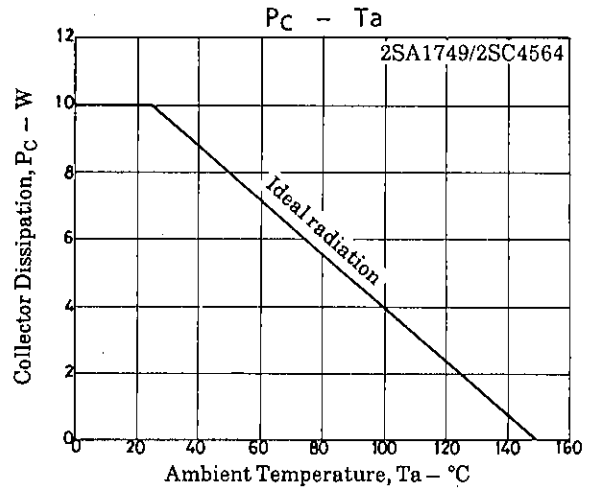
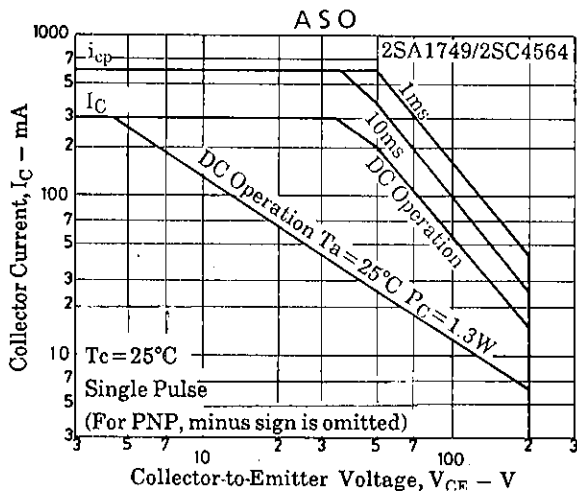
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			min	typ	max	unit
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)50\text{mA}, I_B = (-)5\text{mA}$			(-) $1.0$	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)50\text{mA}, I_B = (-)5\text{mA}$			(-) $1.0$	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$	(-) $200$			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$	(-) $200$			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)100\mu\text{A}, I_C = 0$	(-) $3$			V



2SA1749/2SC4564





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