

<b>SANYO</b>	No.1334C	<b>2SA1319/2SC3332</b>
		PNP/NPN Epitaxial Planar Silicon Transistors
<b>High-Voltage Switching Applications</b>		

**Features**

- High breakdown voltage.
- Excellent  $h_{FE}$  linearity.
- Wide ASO and highly resistant to breakdown.
- Adoption of MBIT process.

( ) : 2SA1319

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

			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	A
Collector Current(Pulse)	$I_{CP}$	(-)1.5	A
Collector Dissipation	$P_C$	700	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)120\text{V}, I_E = 0$			(-)0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}(1)$	$V_{CE} = (-)5\text{V}, I_C = (-)100\text{mA}$	100*		400*	
	$h_{FE}(2)$	$V_{CE} = (-)5\text{V}, I_C = (-)10\text{mA}$	80			
Gain-bandwidth product	$f_T$	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$		120		MHz
Common Base Output Capacitance	$c_{ob}$	$V_{CB} = (-)10\text{V}$		(11)8		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)250\text{mA}, I_B = (-)25\text{mA}$		0.12	0.4	V
				(0.20)	(0.5)	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)250\text{mA}, I_B = (-)25\text{mA}$		(-)0.85	(-)1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$	(-)180			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$	(-)160			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu\text{A}, I_C = 0$	(-)6			V
Turn-on Time	$t_{on}$	At specified test circuit		(60)50		ns
Storage Time	$t_{stg}$	"		(900)1000		ns
Fall Time	$t_f$	"		(60)60		ns

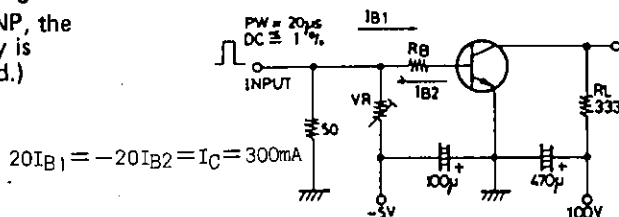
\*: The 2SA1319/2SC3332 are classified by 100mA  $h_{FE}$  as follows:

100	R	200	140	S	280	200	T	400
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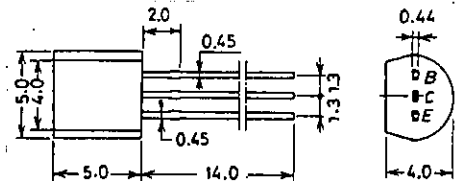
**Package Dimensions**  
(unit: mm) 2003/A

**Switching Time Test Circuit**

(For PNP, the polarity is reversed.)

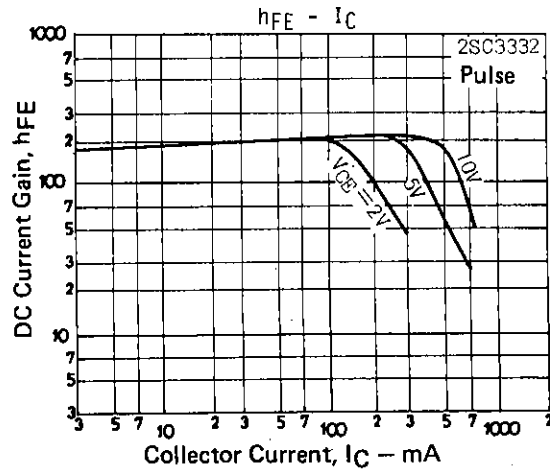
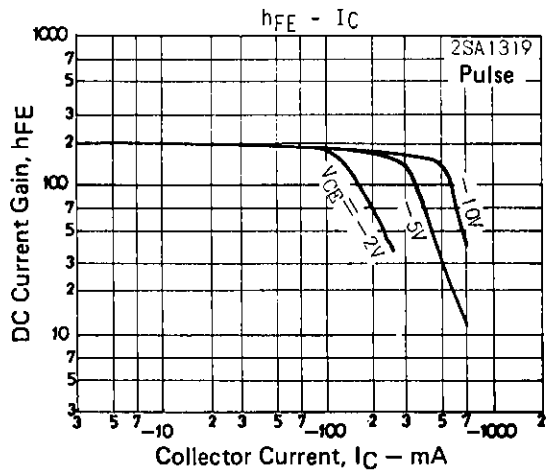
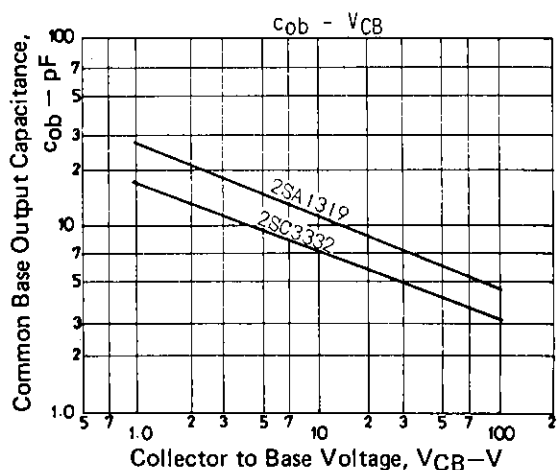
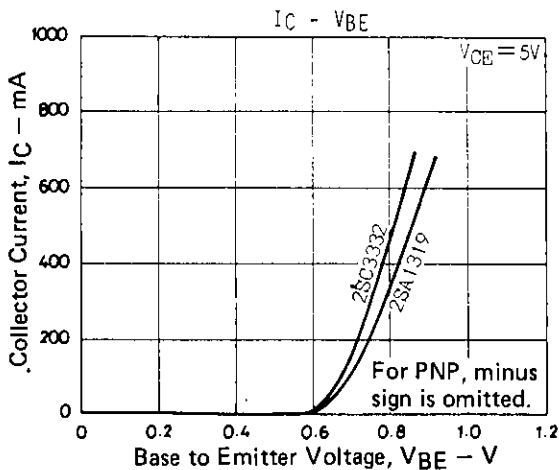
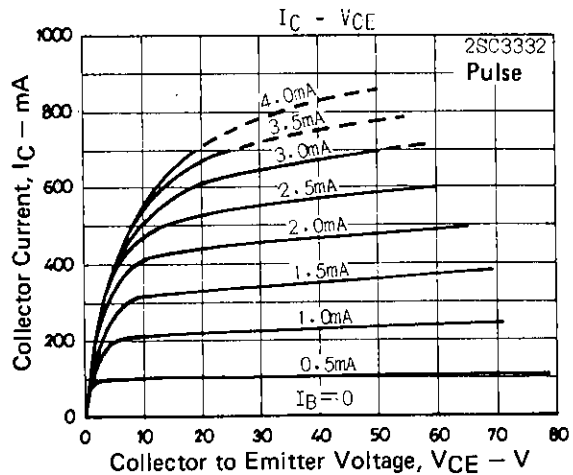
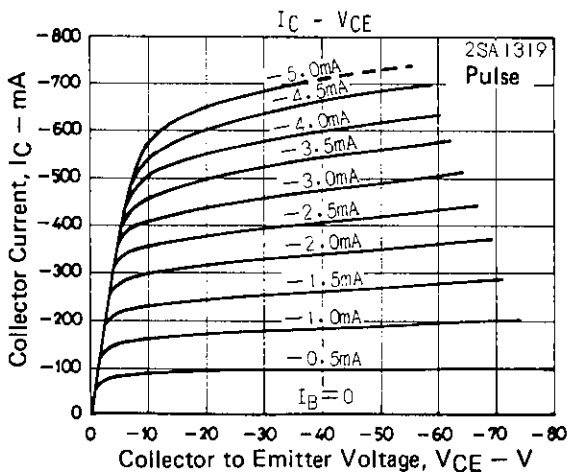
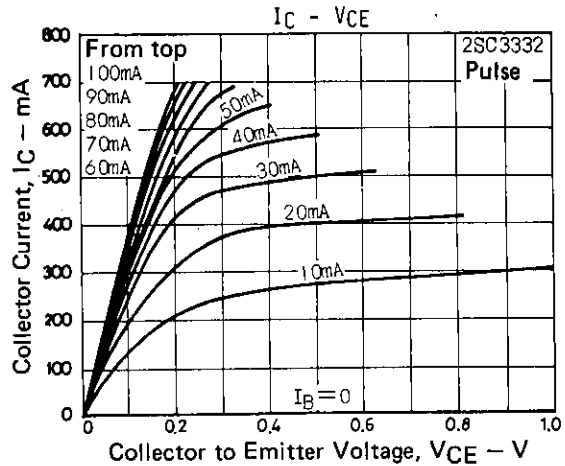
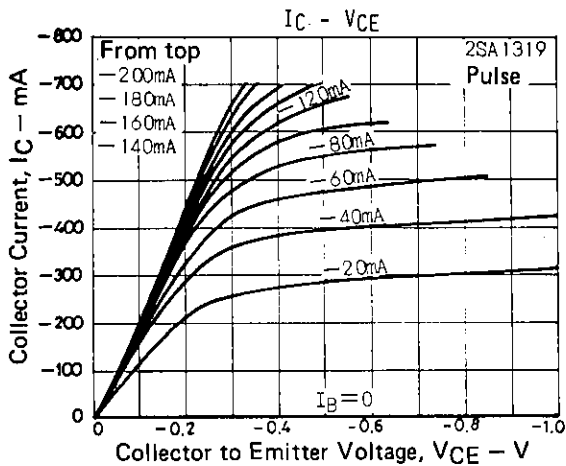


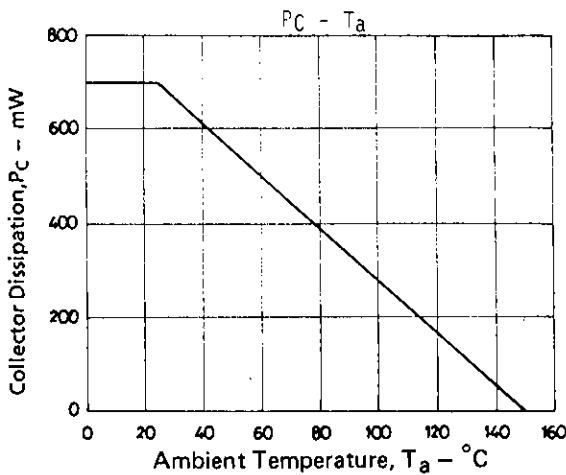
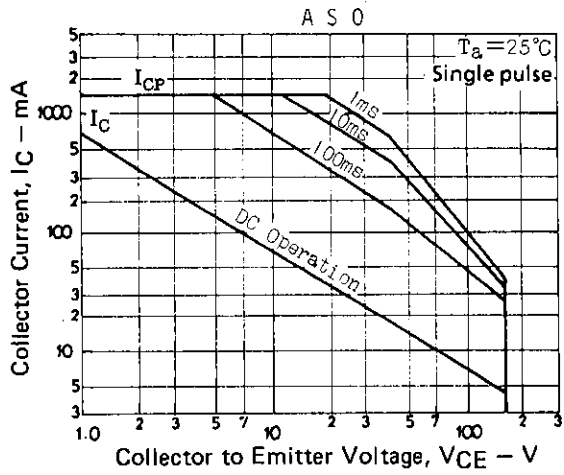
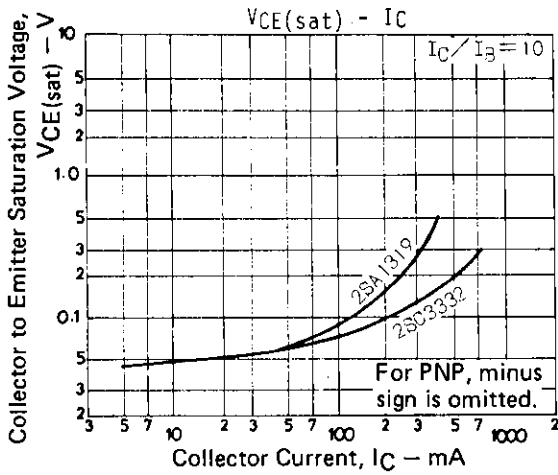
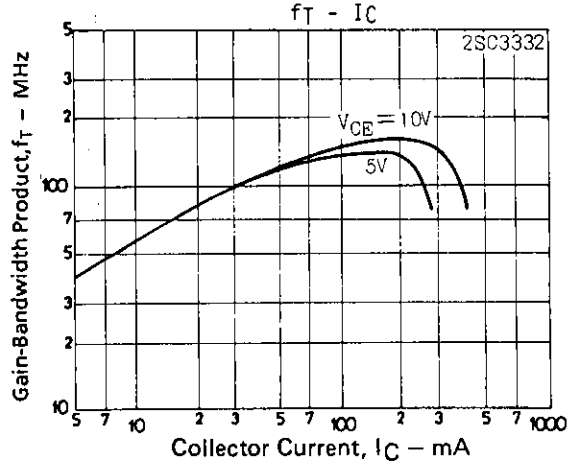
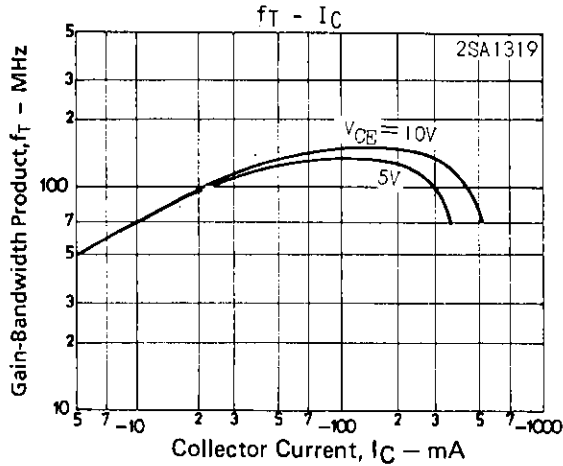
Unit(Resistance :  $\Omega$ , Capacitance : F)



JEDEC: TO-92  
EIAJ: SC-43  
SANYO: NP

B. Base  
C. Collector  
E. Emitter





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