

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

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_{CB0}	(-)180	V
Collector to Emitter Voltage	V_{CE0}	(-)160	V
Emitter to Base Voltage	V_{EB0}	(-)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	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*	
	$h_{FE}(2)$	$V_{CE} = (-)5\text{V}, I_C = (-)10\text{mA}$	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

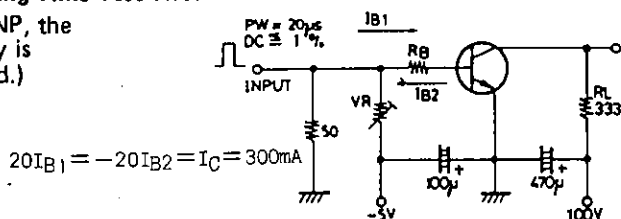
*: The 2SA1319/2SC3332 are classified by 100mA h_{FE} as follows:

100	R	200	140	S	280	200	T	400
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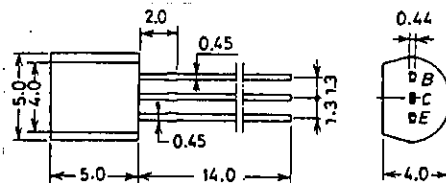
Package Dimensions
(unit: mm) 2003'A

Switching Time Test Circuit

(For PNP, the polarity is reversed.)



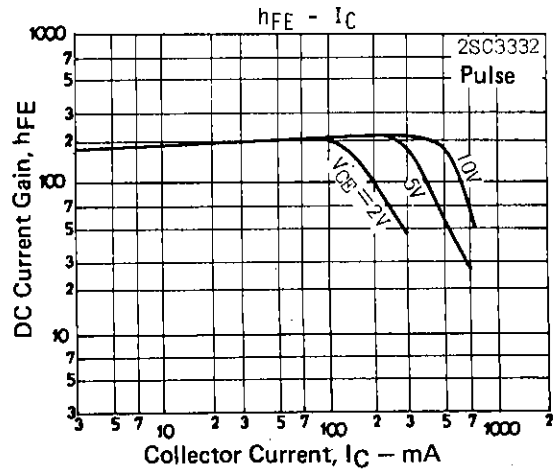
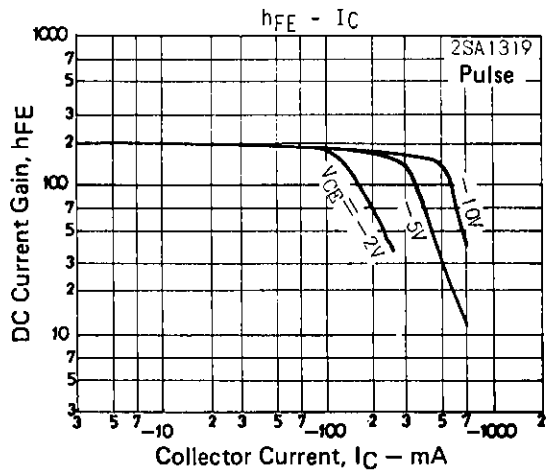
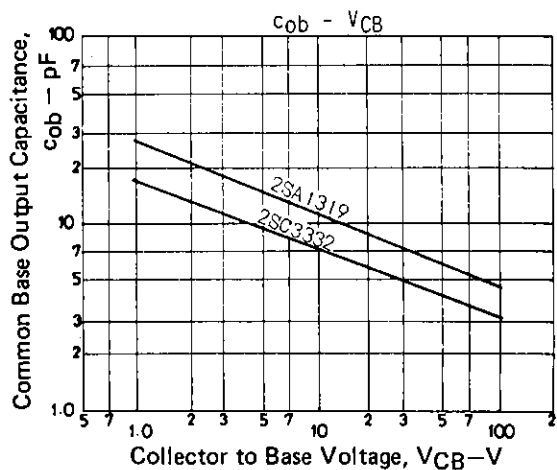
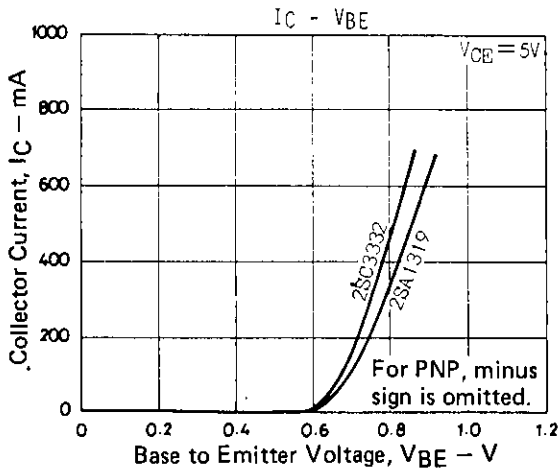
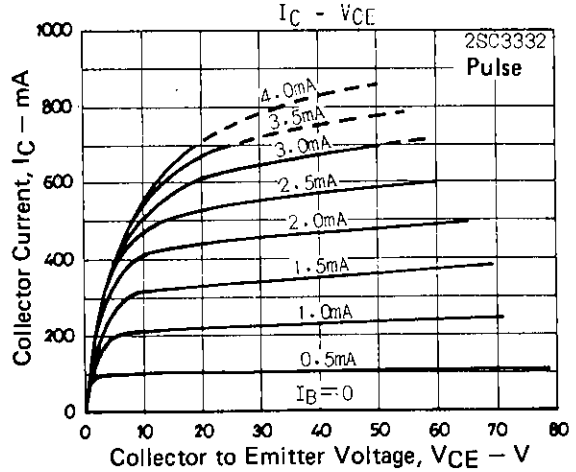
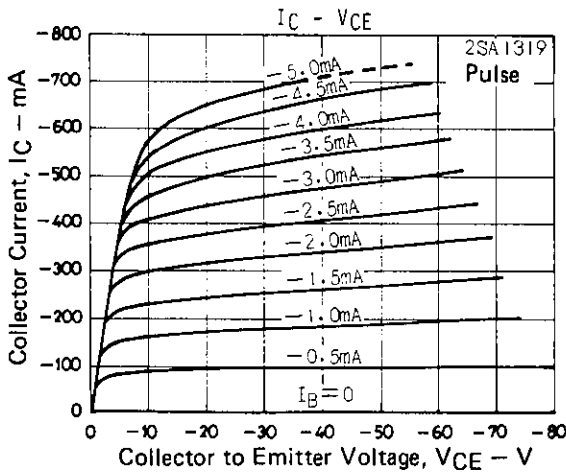
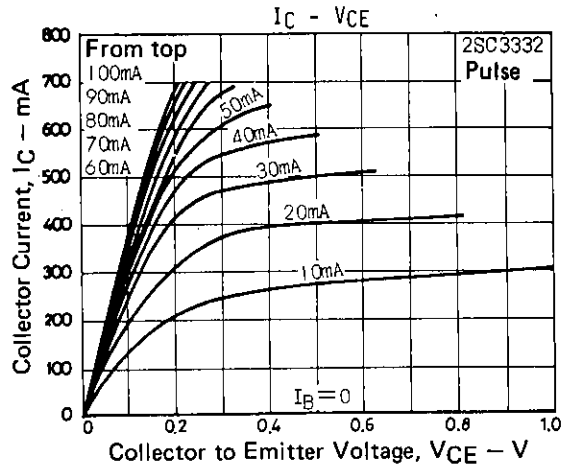
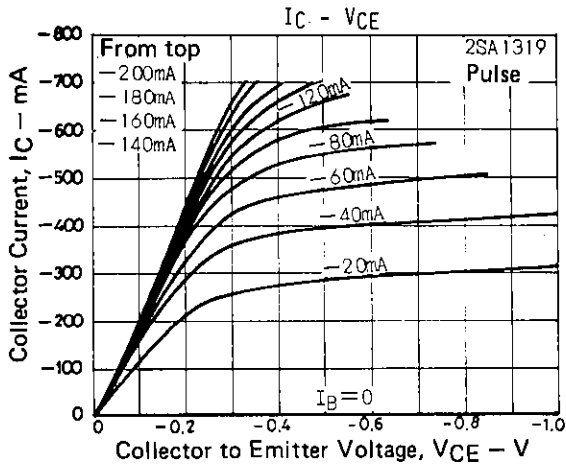
Unit(Resistance : Ω , Capacitance : F)



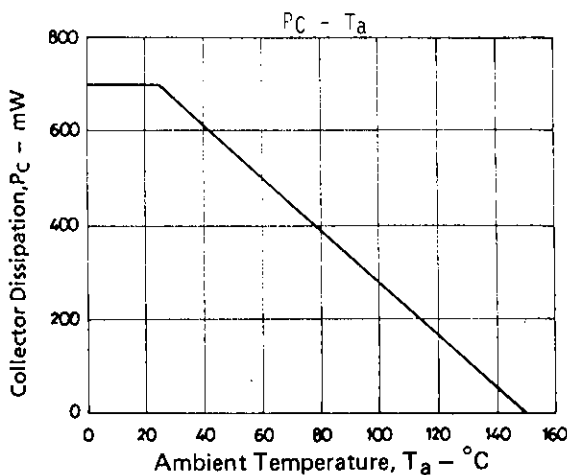
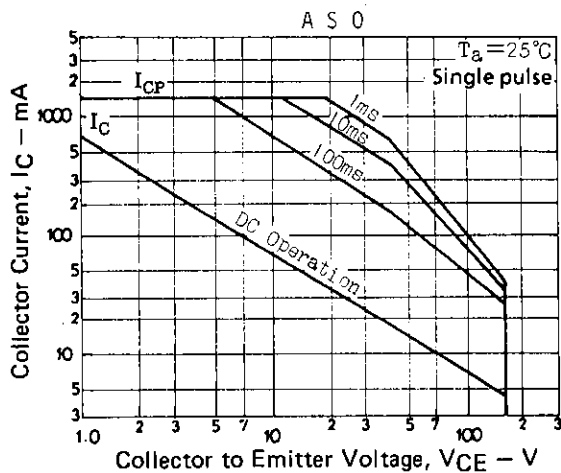
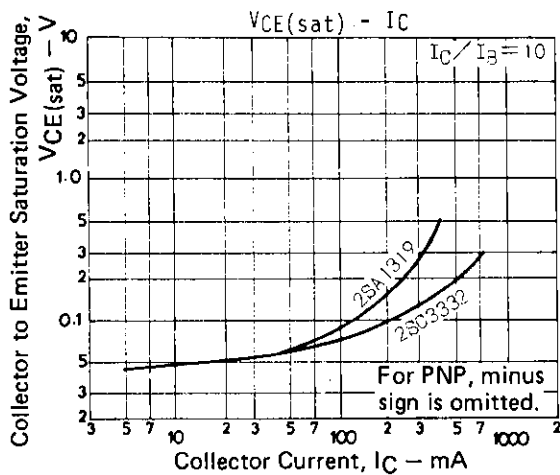
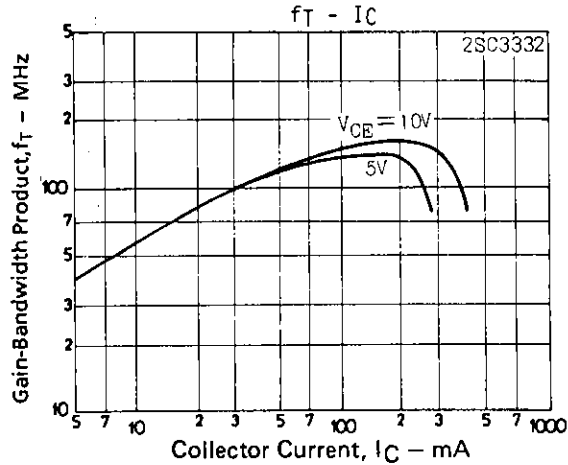
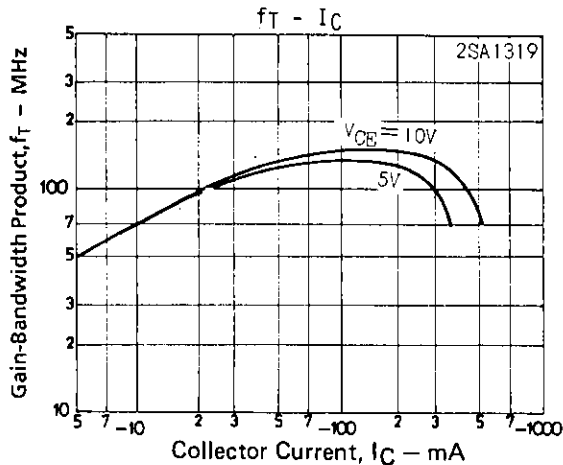
JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

B. Base
C. Collector
E. Emitter

2SA1319/2SC3332



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