Ordering number: EN 1334C

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°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	°C
Storage Temperature	T_{stg}	−55 to +150	°C

Electrical Characteristics/T_a=25°C

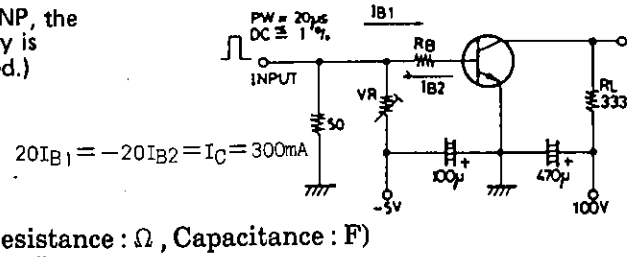
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(−)120V, I_E=0			(−)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(−)4V, I_C=0			(−)0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=(−)5V, I_C=(−)100mA	100*		400*	
	$h_{FE(2)}$	V_{CE}=(−)5V, I_C=(−)10mA	80			
Gain-bandwidth product	f_T	V_{CE}=(−)10V, I_C=(−)50mA		120		MHz
Common Base Output Capacitance	c_{ob}	V_{CB}=(−)10V		(11)8		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(−)250mA, I_B=(−)25mA		0.12	0.4	V
				(0.20)	(0.5)	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(−)250mA, I_B=(−)25mA		(−)0.85	(−)1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(−)10μA, I_E=0	(−)180			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(−)1mA, R_{BE}=∞	(−)160			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(−)10μA, 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

Switching Time Test Circuit

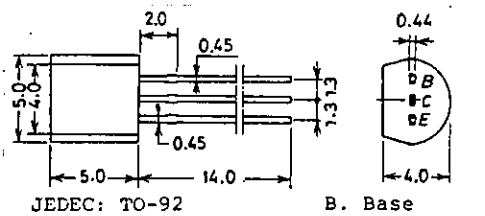
(For PNP, the polarity is reversed.)



$20I_{B1} = -20I_{B2} = I_C = 300mA$

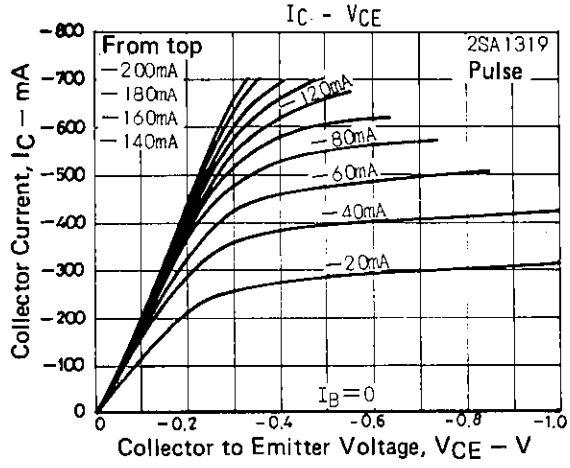
Unit(Resistance : Ω , Capacitance : F)

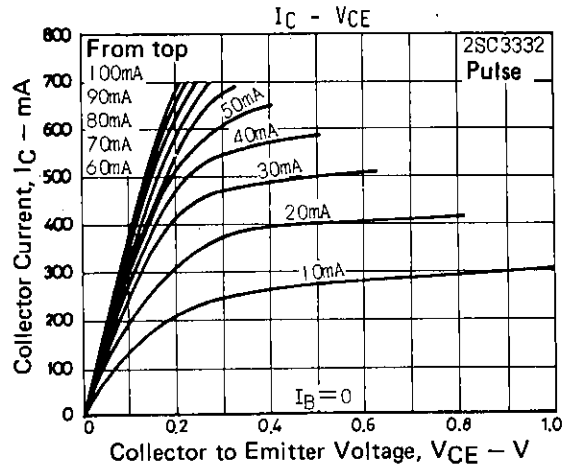
Package Dimensions
(unit: mm) 2003A

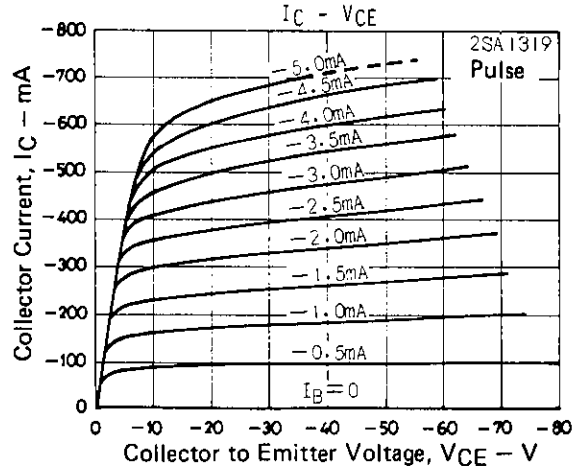


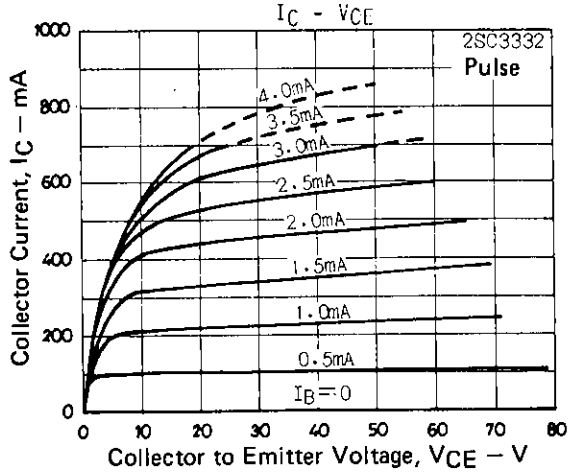
JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

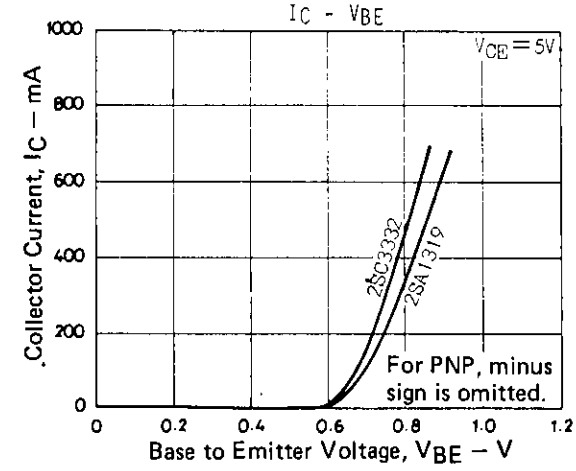
B. Base
C. Collector
E. Emitter

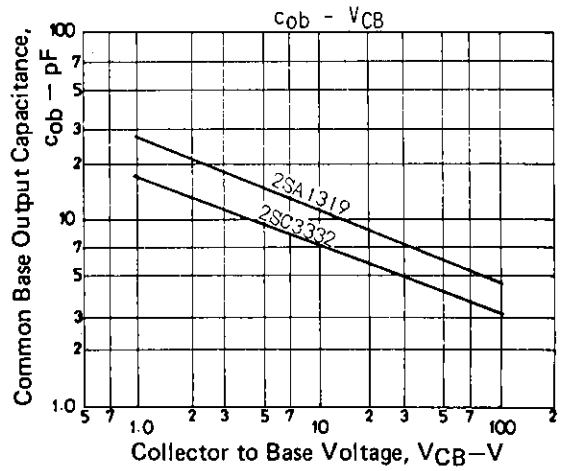

IC - VCE
2SA1319
Pulse
From top
−200mA
−180mA
−160mA
−140mA
−120mA
−80mA
−60mA
−40mA
−20mA
IB=0
Collector Current, IC − mA
Collector to Emitter Voltage, VCE − V

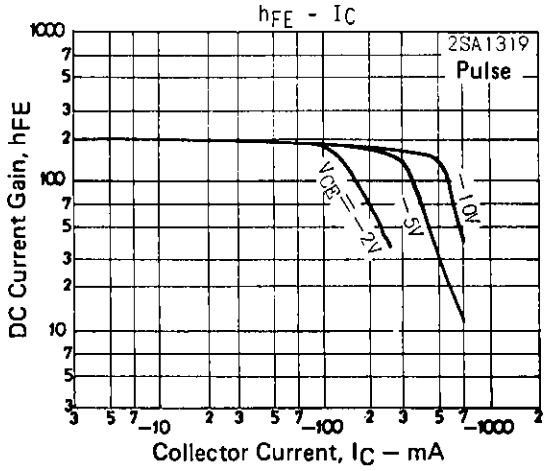

IC - VCE
2SC3332
Pulse
From top
100mA
90mA
80mA
70mA
60mA
50mA
40mA
30mA
20mA
10mA
IB=0
Collector Current, IC − mA
Collector to Emitter Voltage, VCE − V

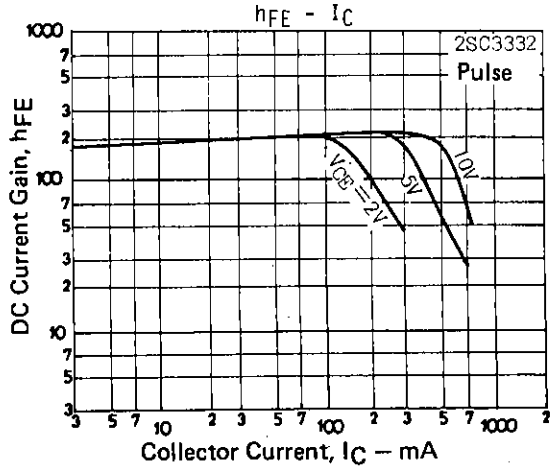

IC - VCE
2SA1319
Pulse
−5.0mA
−4.5mA
−4.0mA
−3.5mA
−3.0mA
−2.5mA
−2.0mA
−1.5mA
−1.0mA
−0.5mA
IB=0
Collector Current, IC − mA
Collector to Emitter Voltage, VCE − V

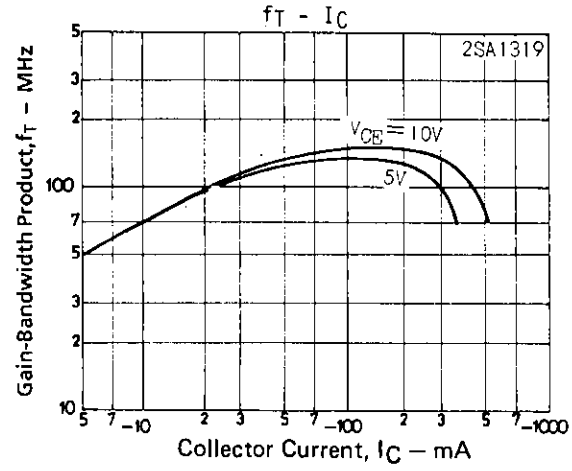

IC - VCE
2SC3332
Pulse
4.0mA
3.5mA
3.0mA
2.5mA
2.0mA
1.5mA
1.0mA
0.5mA
IB=0
Collector Current, IC − mA
Collector to Emitter Voltage, VCE − V

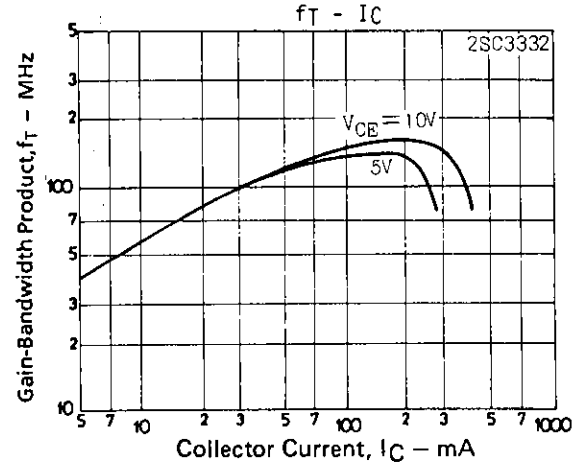

IC - VBE
VCE=5V
2SC3332
2SA1319
For PNP, minus sign is omitted.
Collector Current, IC − mA
Base to Emitter Voltage, VBE − V

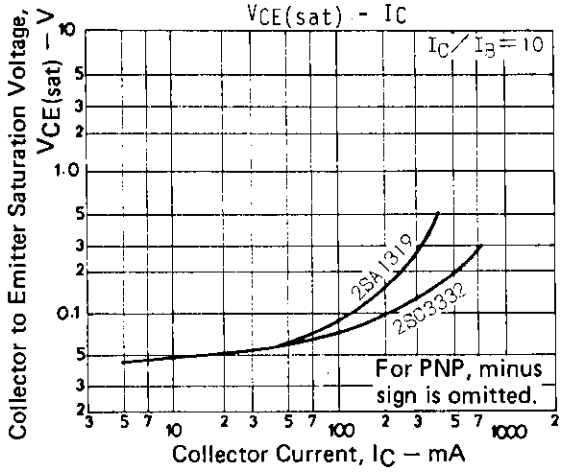

Cob - VCB
2SA1319
2SC3332
Common Base Output Capacitance, Cob − pF
Collector to Base Voltage, VCB−V

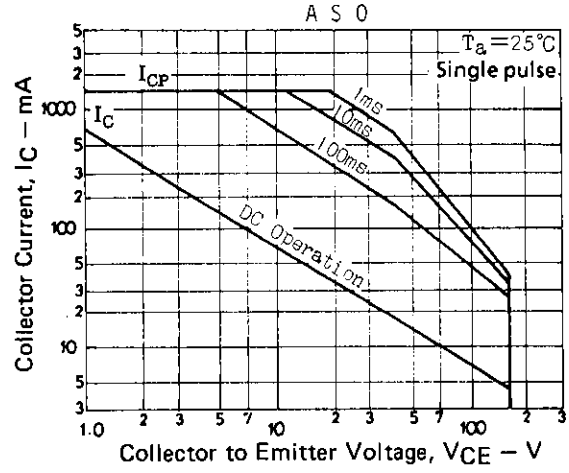

hFE - IC
2SA1319
Pulse
VCE=−2V
−5V
−10V
DC Current Gain, hFE
Collector Current, IC − mA

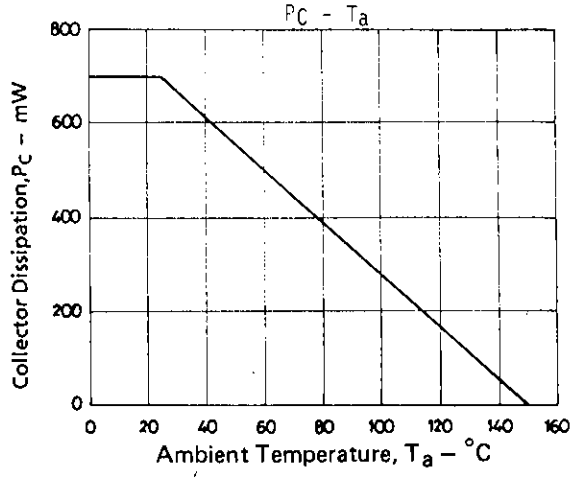

hFE - IC
2SC3332
Pulse
VCB=2V
5V
10V
DC Current Gain, hFE
Collector Current, IC − mA











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