



2SA1319/2SC3332

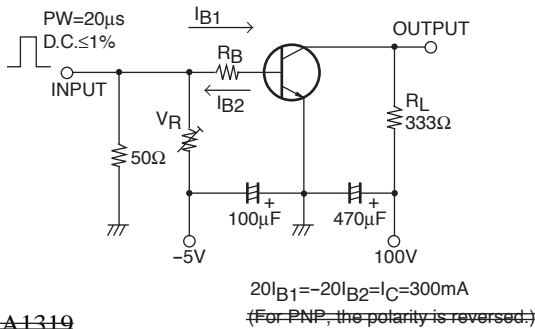
High-Voltage Switching Applications

An ON Semiconductor Company

Features

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

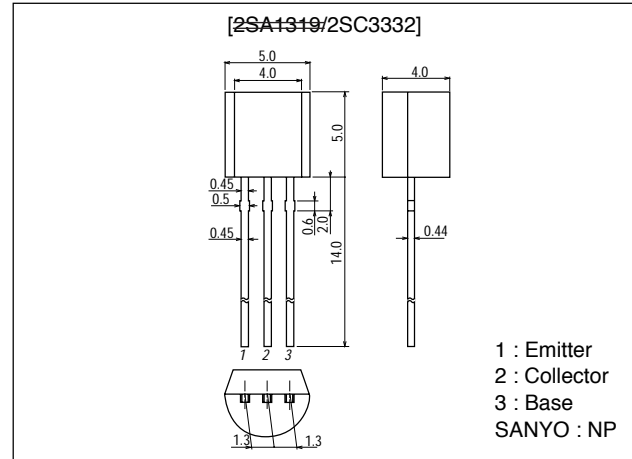
Switching Test Circuit



(-) : 2SA1319

Package Dimensions

unit:mm
2003B



Specifications

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

Parameter	Symbol	Conditions	Ratings	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 at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB} = \approx 120\text{V}, I_E = 0$			≈ 0.1	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB} = \approx 4\text{V}, I_C = 0$			≈ 0.1	μA
DC Current Gain	h_{FE1}	$V_{CE} = \approx 5\text{V}, I_C = \approx 100\text{mA}$	100*		400*	
	h_{FE2}	$V_{CE} = \approx 5\text{V}, I_C = \approx 10\text{mA}$	80			

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

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Rank	R	S	T
h_{FE}	100 to 200	140 to 280	200 to 400

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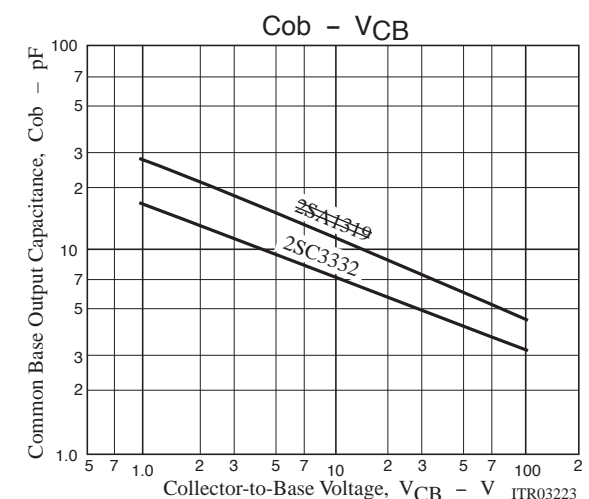
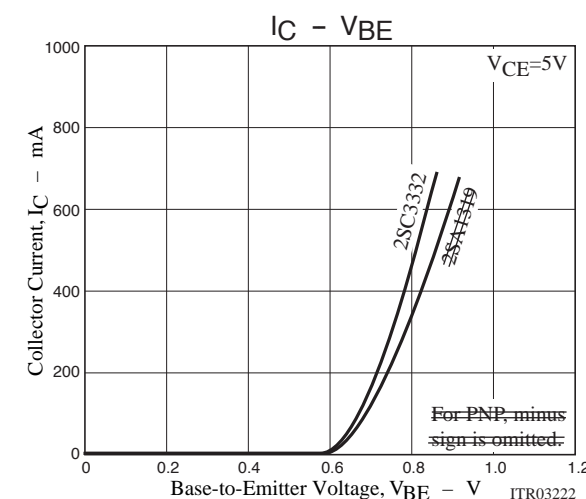
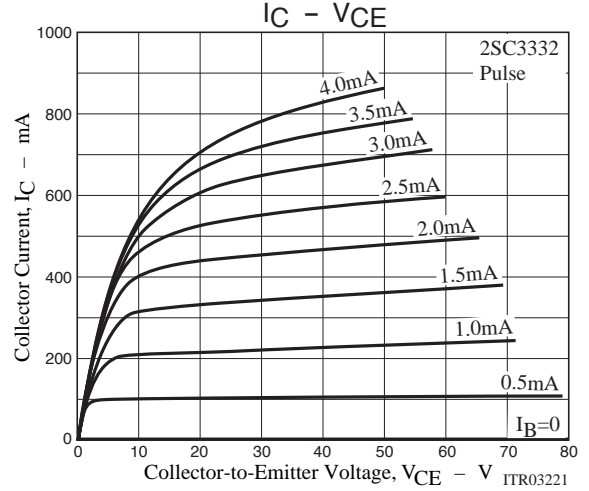
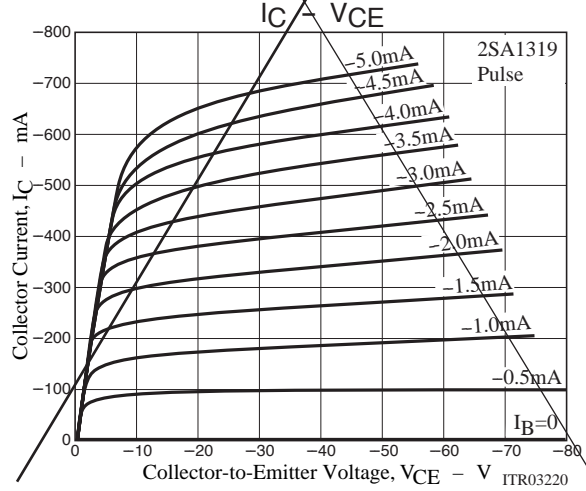
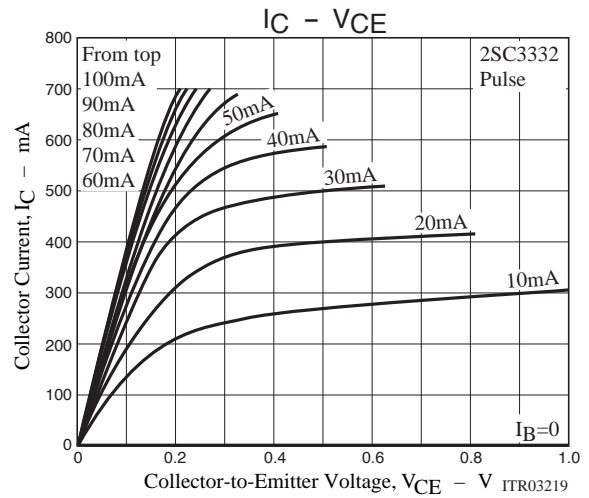
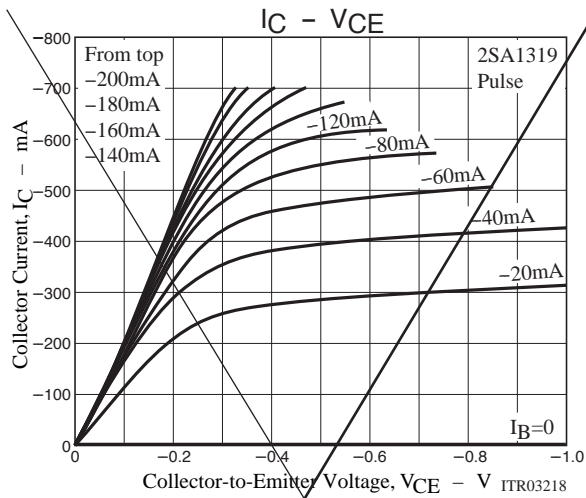
SANYO Electric Co., Ltd. Semiconductor Company

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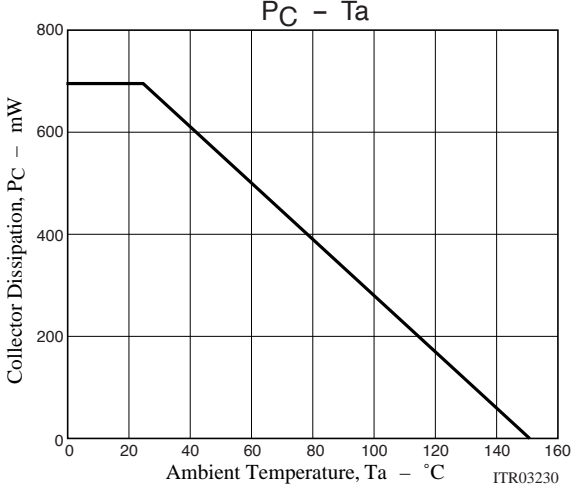
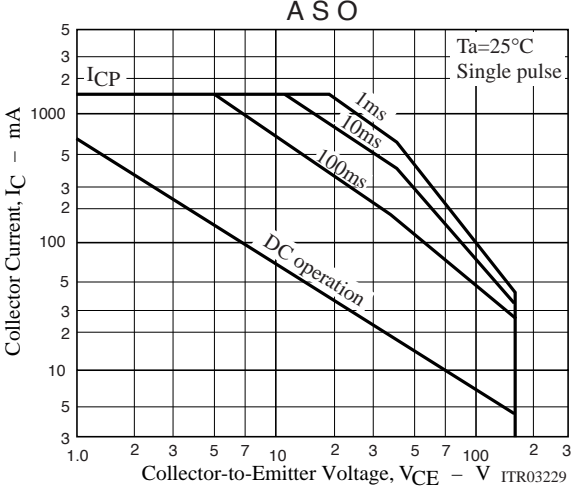
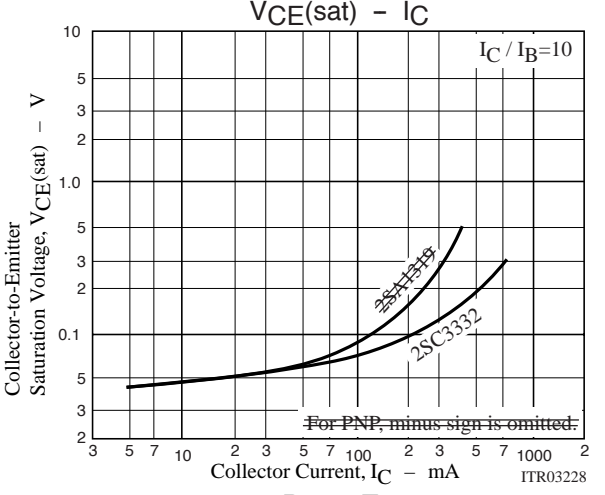
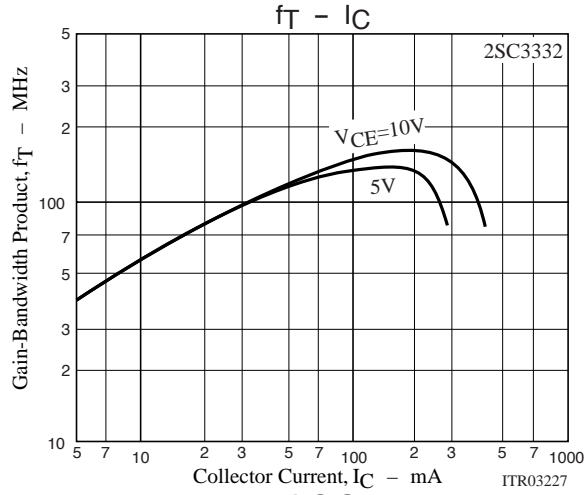
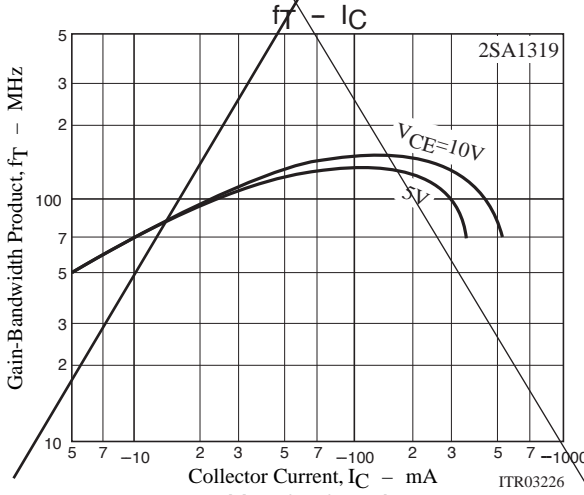
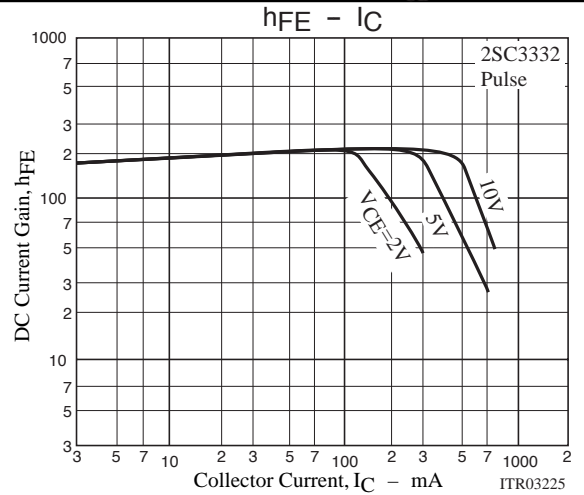
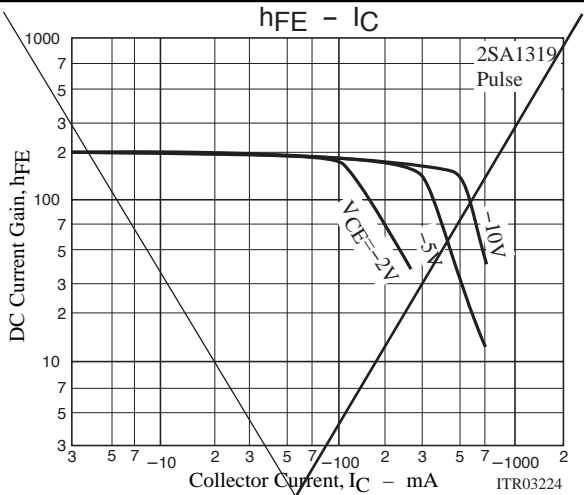
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 50mA$		120		MHz
Common Base Output Capacitance	C_{ob}	$V_{CB} = 10V$		8		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 250mA, I_B = 25mA$		0.20 0.12	0.5 0.4	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	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	180			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	160			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	6			V
Turn-ON Time	t_{on}	See specified Test Circuit		50		ns
Storage Time	t_{stg}	See specified Test Circuit		1000		ns
Fall Time	t_f	See specified Test Circuit		60		ns



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