

2SA1319/2SC3332

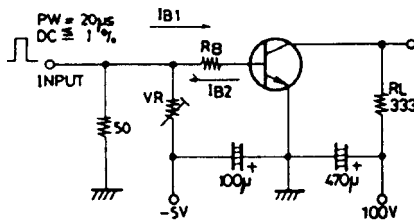


High-Voltage Switching Applications

Features

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

Switching Test Circuit



$20I_{B1} = -20I_{B2} = I_C = 300\text{mA}$
 (For PNP, the polarity is reversed)
 Unit (resistance : Ω , capacitance : F)

() : 2SA1319

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_{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 at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
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_{FE1}	$V_{CE} = (-)5\text{V}, I_C = (-)100\text{mA}$	100*		400*	
	h_{FE2}	$V_{CE} = (-)5\text{V}, I_C = (-)10\text{mA}$	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	$V_{CE(sat)}$	$I_C = (-)250\text{mA}, I_B = (-)25\text{mA}$		(0.20) 0.12	(0.5) 0.4	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}	See specified Test Circuit		(60)50		ns
Storage Time	t_{stg}	See specified Test Circuit		(900) 1000		ns
Fall Time	t_f	See specified Test Circuit		(60)60		ns

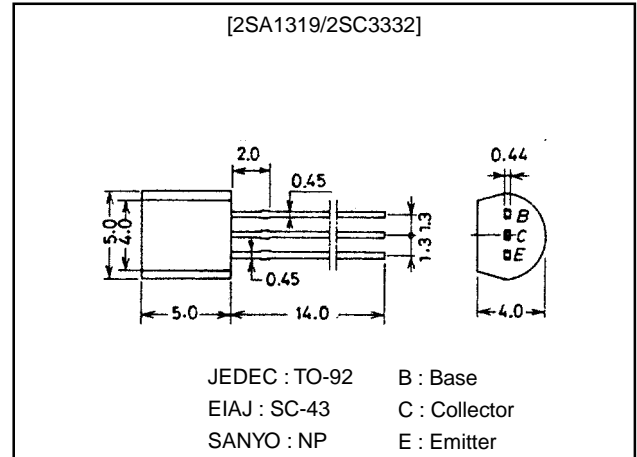
* : The 2SA1319/2SC3332 are classified by 100mA h_{FE} as follows :

100 R	200	140 S	280	200 T	400
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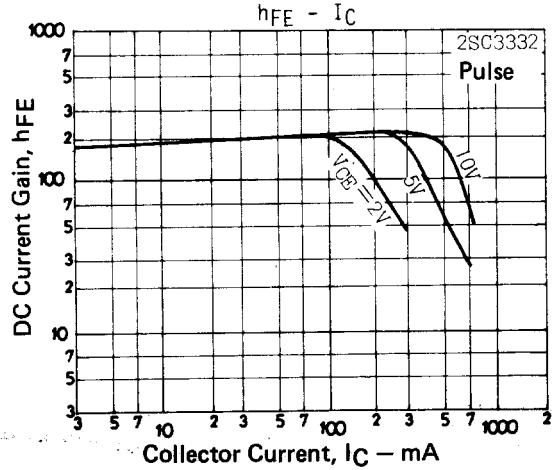
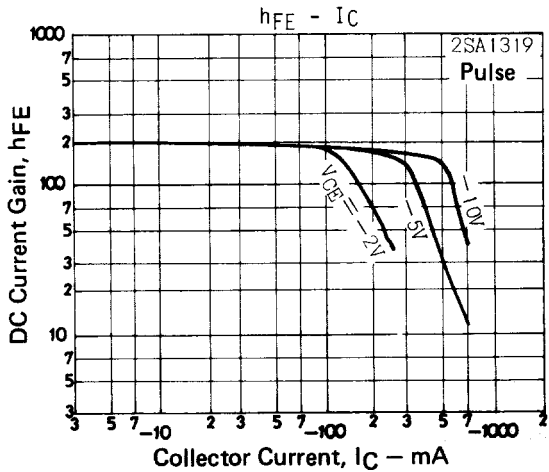
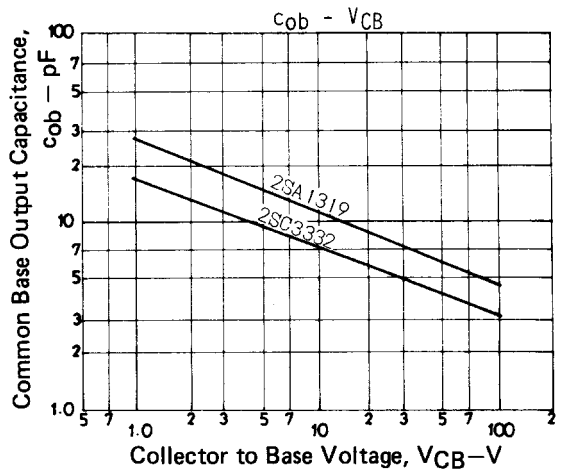
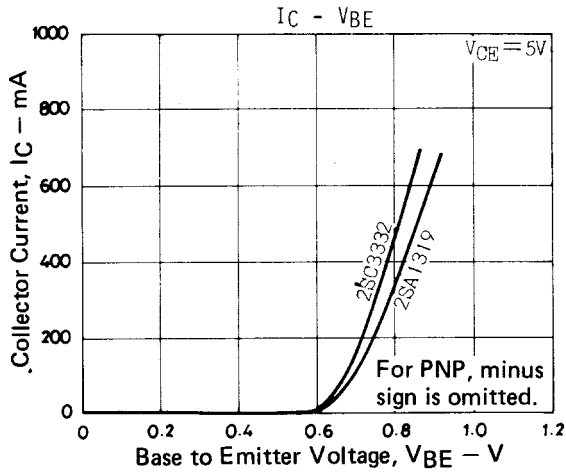
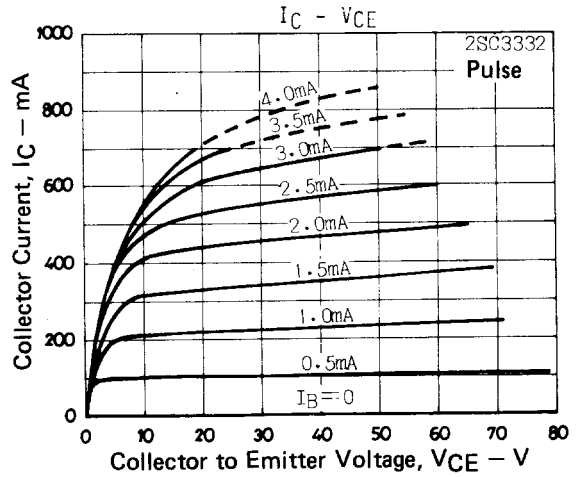
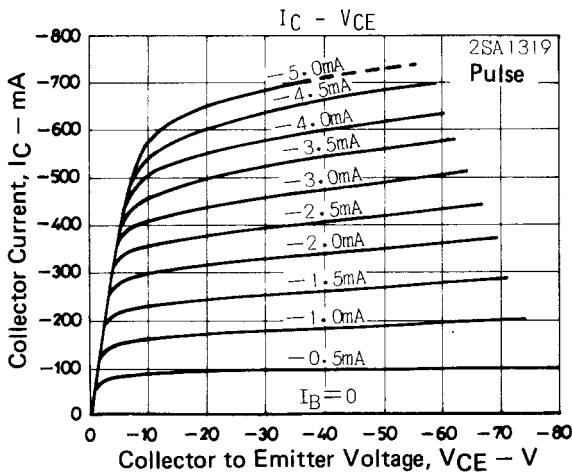
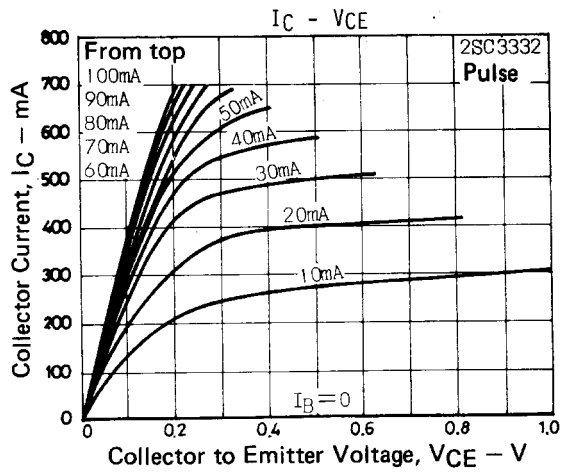
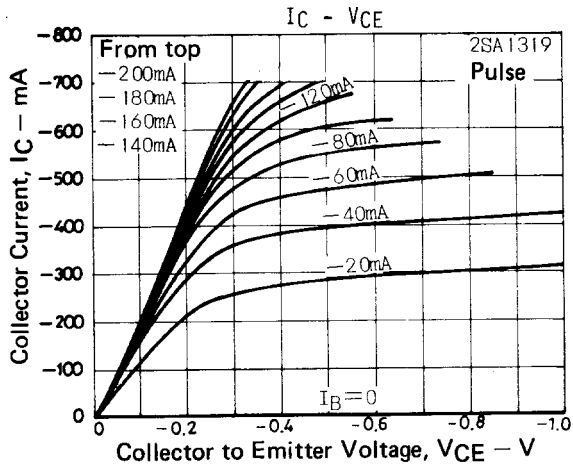
Package Dimensions

unit:mm

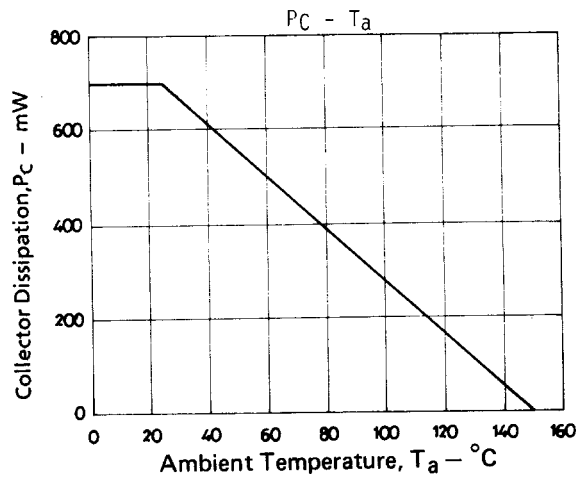
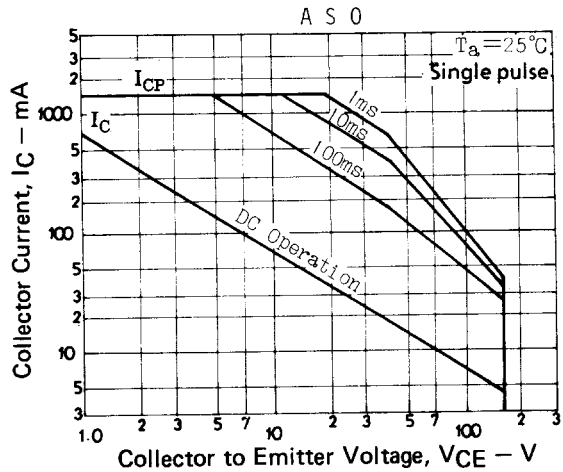
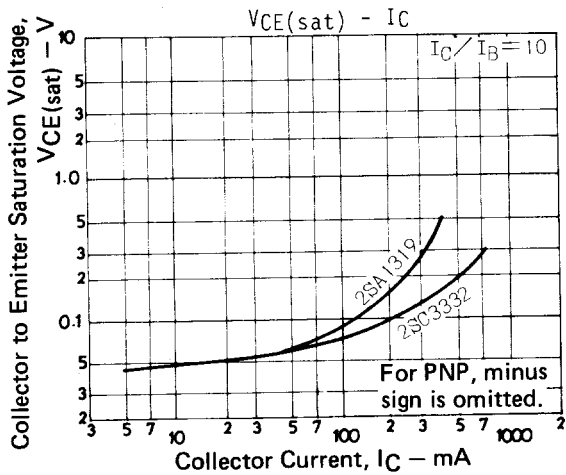
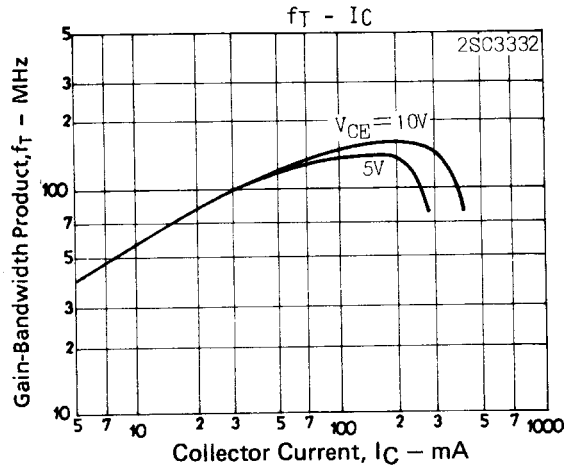
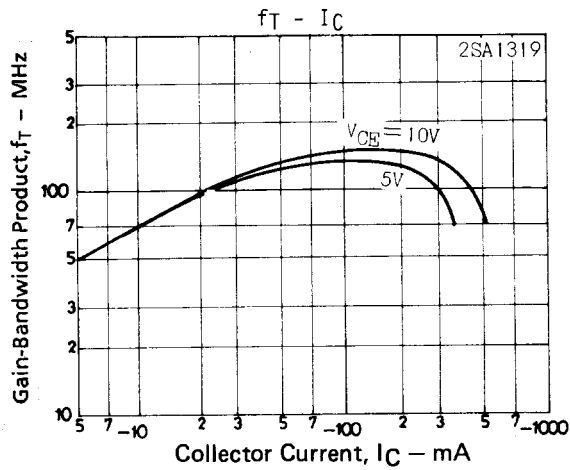
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