

SANYO

No.1421A

2SA1338/2SC3392

PNP/NPN Epitaxial Planar Silicon Transistors

High-Speed Switching Applications

Features

- Adoption of FBET process
- High breakdown voltage: $V_{CEO} = (-) 50V$
- Large current capacity and high f_T
- Very small-sized package permitting sets to be small-sized, slim

(): 2SA1338

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

			unit
Collector to Base Voltage	V_{CBO}	(-) 60	V
Collector to Emitter Voltage	V_{CEO}	(-) 50	V
Emitter to Base Voltage	V_{EBO}	(-) 5	V
Collector Current	I_C	(-) 500	mA
Collector Current(Pulse)	I_{CP}	(-) 800	mA
Collector Dissipation	P_C	200	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

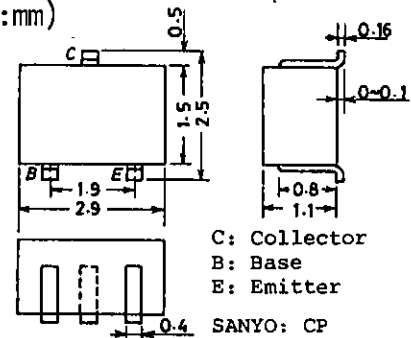
Electrical Characteristics at $T_a = 25^\circ C$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-) 40V, I_E = 0$			(-) 0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-) 4V, I_C = 0$			(-) 0.1	μA
DC Current gain	h_{FE}	$V_{CE} = (-) 5V, I_C = (-) 10mA$	100*		560*	
Gain-Bandwidth Product	f_T	$V_{CE} = (-) 10V, I_C = (-) 50mA$		300 (200)		MHz
Output Capacitance	c_{ob}	$V_{CB} = (-) 10V, f = 1MHz$		3.7 (5.6)		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-) 100mA, I_B = (-) 10mA$		0.1 (0.15)	0.3 (0.4)	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-) 100mA, I_B = (-) 10mA$		0.8	1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-) 10\mu A, I_E = 0$	(-) 60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-) 100\mu A, R_{BE} = \infty$	(-) 50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-) 10\mu A, I_C = 0$	(-) 5			V
Turn-on Time	t_{on}	$V_{CC} = 20V,$		70 (70)		ns
Storage Time	t_{stg}	$I_C = 10I_{B1} = -10I_{B2} = 100mA$	400 (400)			ns
Fall Time	t_f			70 (50)		ns

* : The 2SA1338/2SC3392 are classified by 10mA h_{FE} as follows:

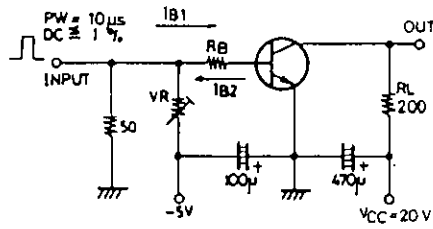
2SA1338/ 2SC3392	100	4	200	140	5	280
	200	6	400	280	7	560

(Note) 2SA1338 marking: AL/2SC3392 marking: AY
 h_{FE} rank: 4, 5, 6, 7

Package Dimensions 2018A
(unit:mm)**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

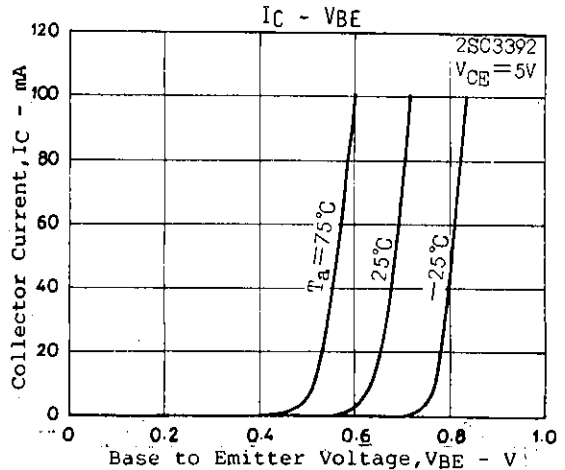
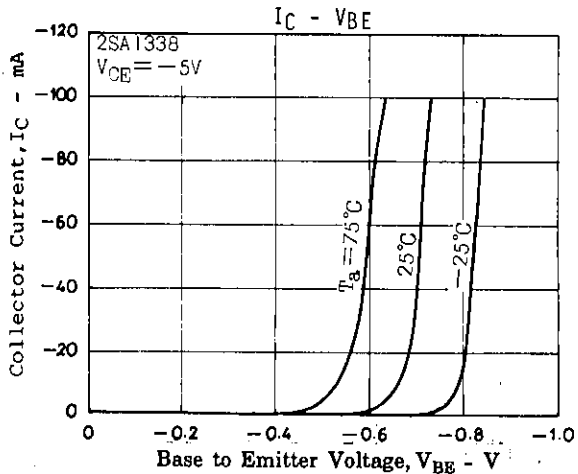
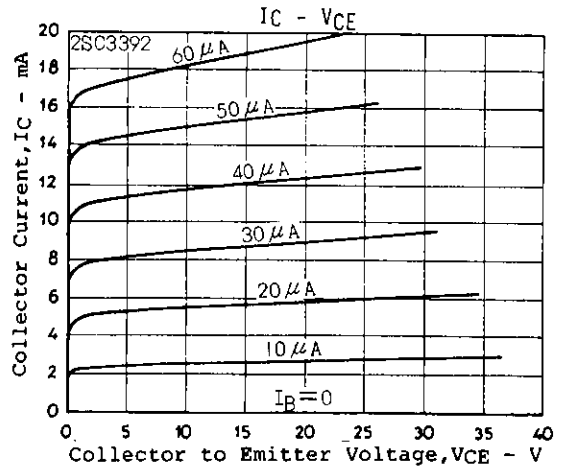
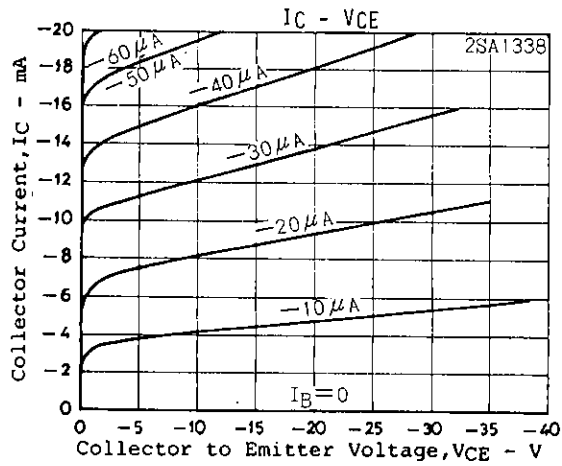
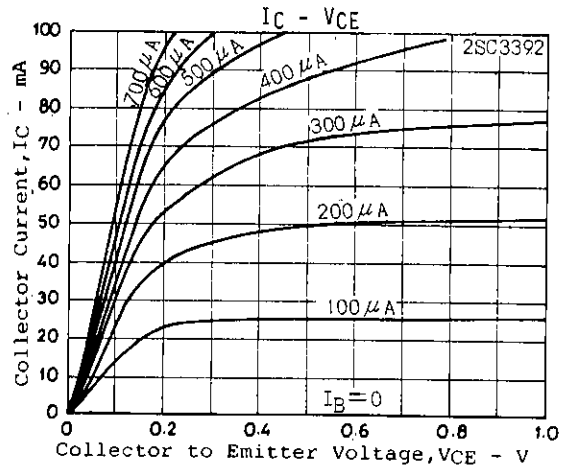
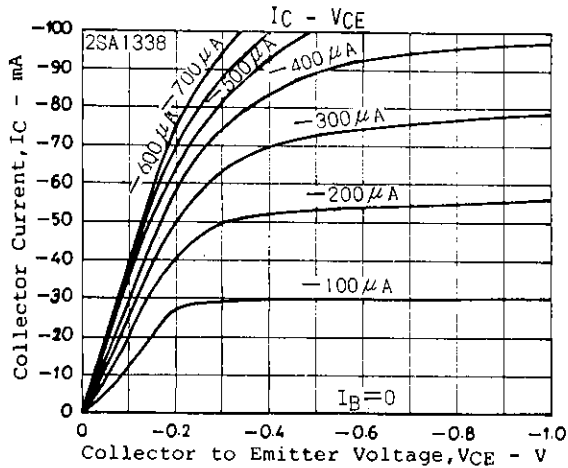
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Switching Time Test Circuit

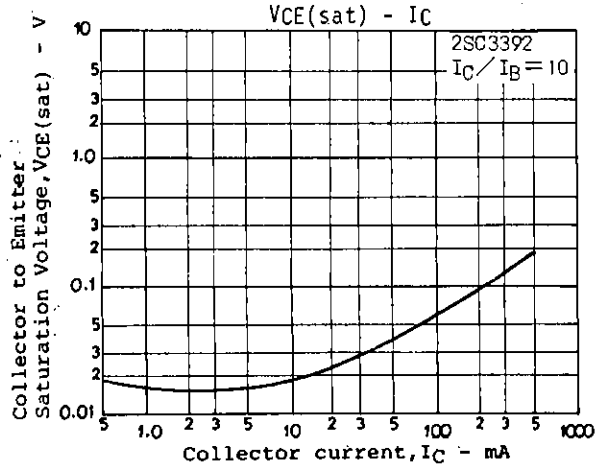
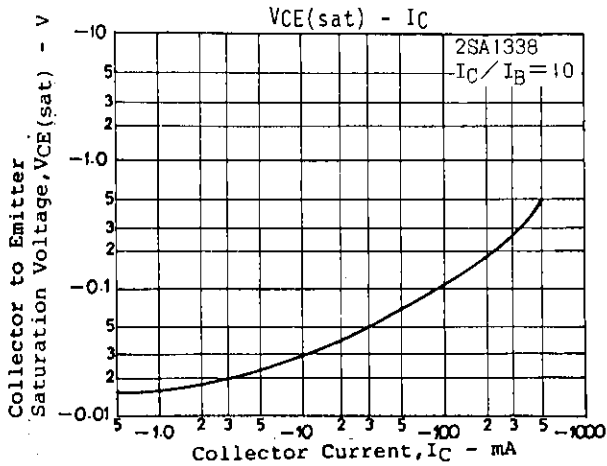
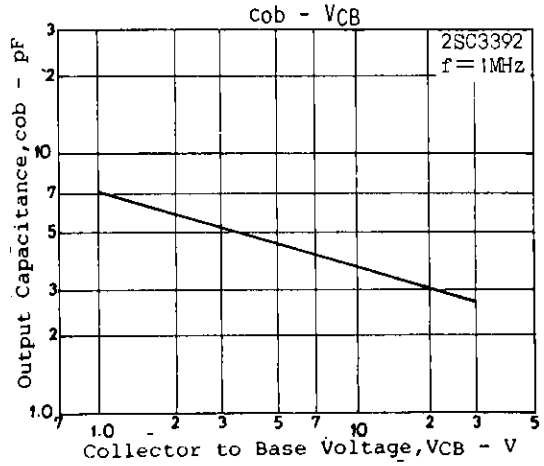
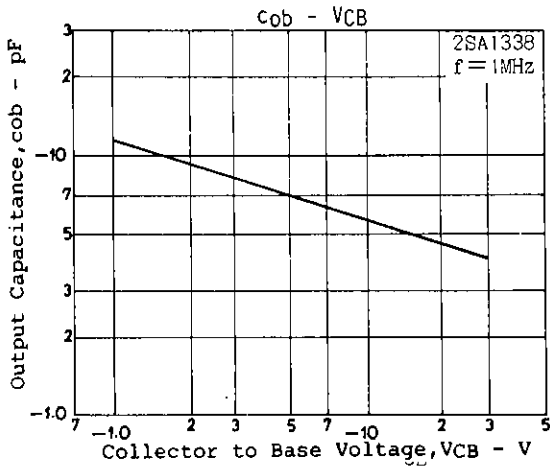
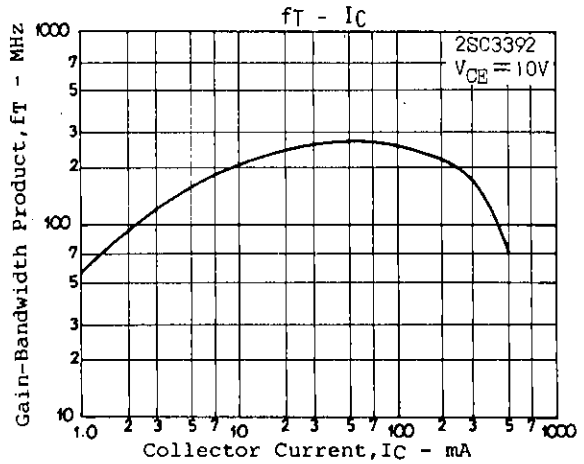
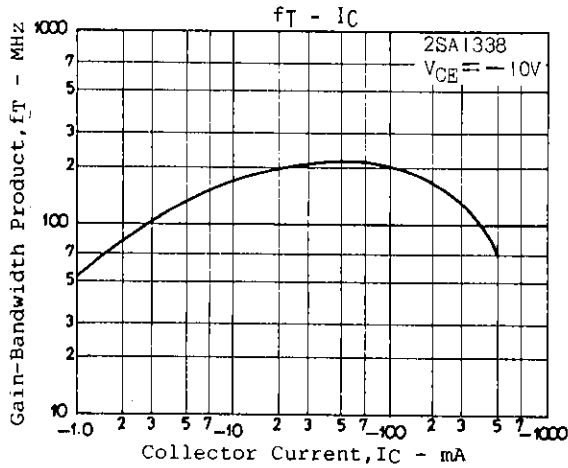
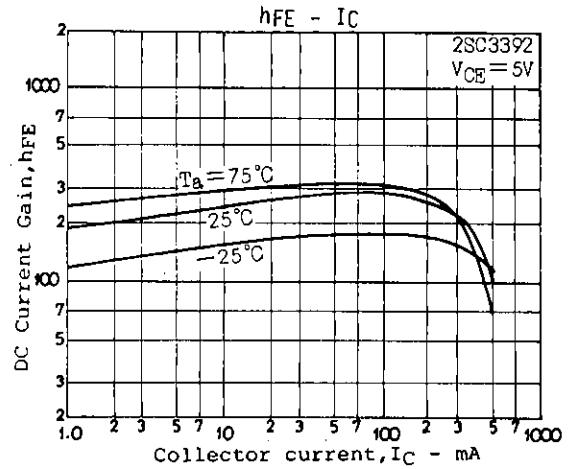
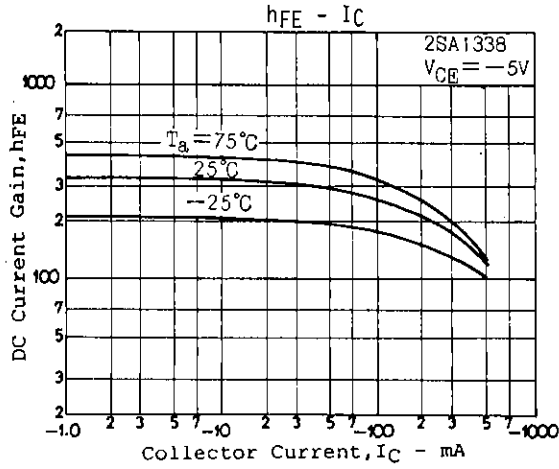


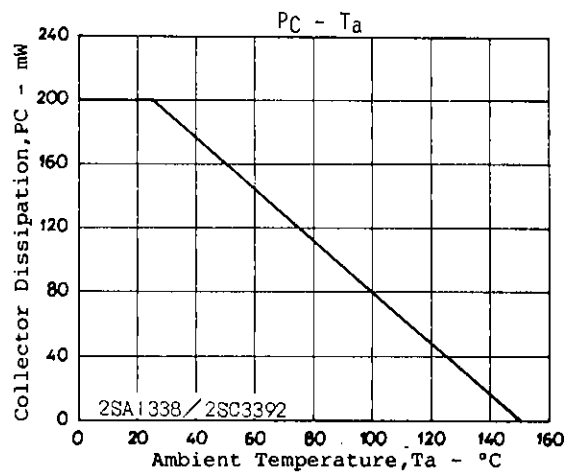
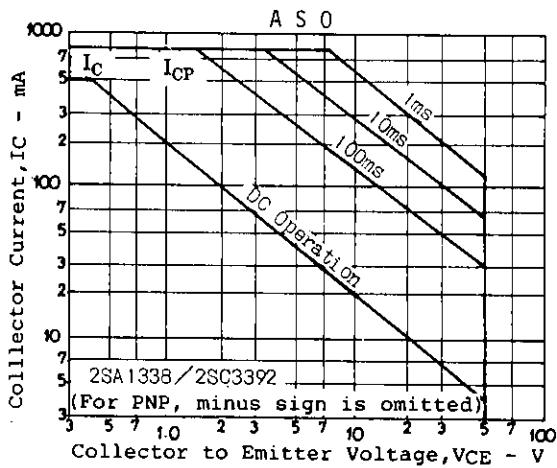
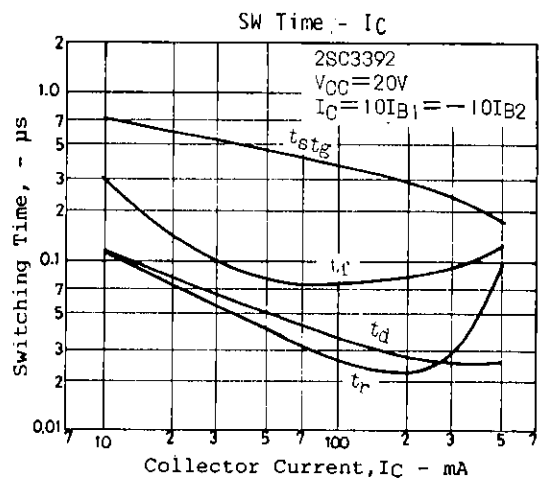
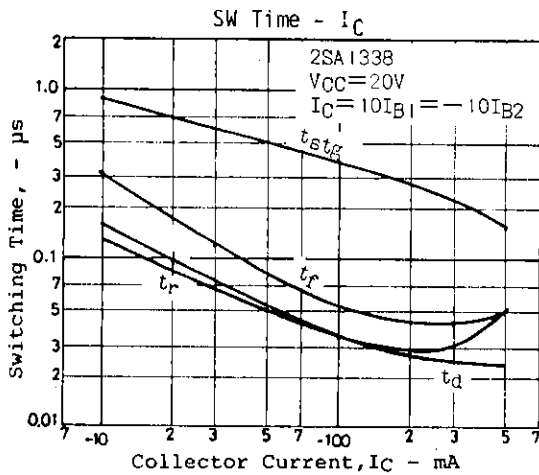
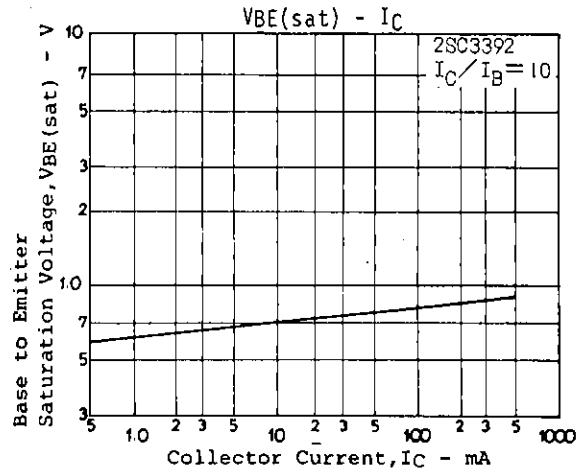
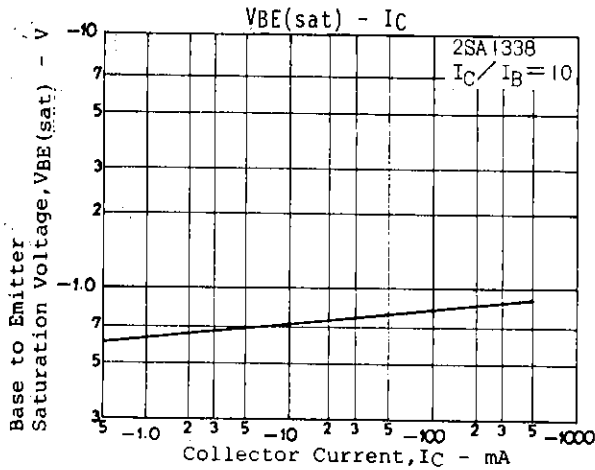
(For PNP, the polarity is reversed.)

Unit (Resistance : Ω, Capacitance : F)



2SA1338/2SC3392





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