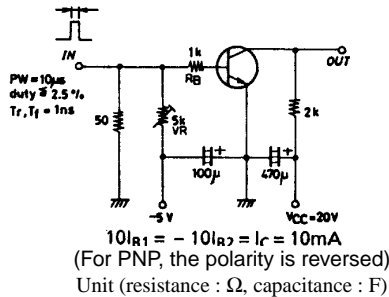


**2SA1331/2SC3361****SANYO****High-Speed Switching Applications****Features**

- Fast switching speed.
- High breakdown voltage.
- Small-sized package permitting the 2SA1331/2SC3361-applied sets to be made small and slim.

**Switching Time Test Circuit**

() : 2SA1331

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	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	$I_C$		(-)150	mA
Collector Current (Pulse)	$I_{CP}$		(-)400	mA
Base Current	$I_B$		(-)40	mA
Collector Dissipation	$P_C$		150	mW
Junction Temperature	$T_J$		125	°C
Storage Temperature	$T_{stg}$		-55 to +125	°C

**Electrical Characteristics at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings		Unit	
			min	typ		max
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	$h_{FE}$	$V_{CE} = (-)6V, I_C = (-)1mA$	90*		400*	
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)6V, I_C = (-)1mA$		100		MHz
Common Base Output Capacitance	$C_{ob}$	$V_{CB} = (-)6V, f = 1MHz$		(3.5) 2.7		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)10mA, I_B = (-)1mA$		(-)0.1	(-)0.4	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)10mA, I_B = (-)1mA$		(-)0.75	(-)1.1	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10μA, I_E = 0$		(-)60		V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = ∞$		(-)50		V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10μA, I_C = 0$		(-)5		V
Delay Time	$t_d$	See specified Test Circuit		40		ns
Rise Time	$t_r$	See specified Test Circuit		(120) 80		ns
Storage Time	$t_{stg}$	See specified Test Circuit		(190) 230		ns
Fall Time	$t_f$	See specified Test Circuit		(200) 160		ns

\* : The 2SA1331/2SC3361 are classified by 1mA  $h_{FE}$  as follows :

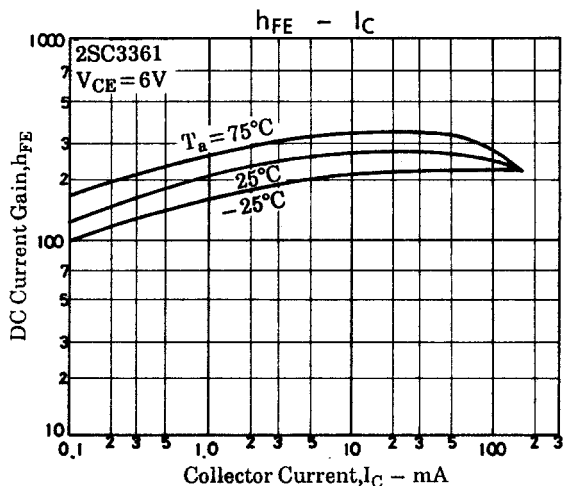
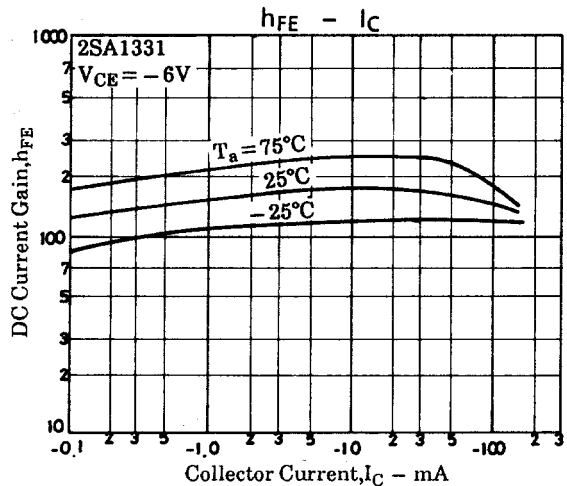
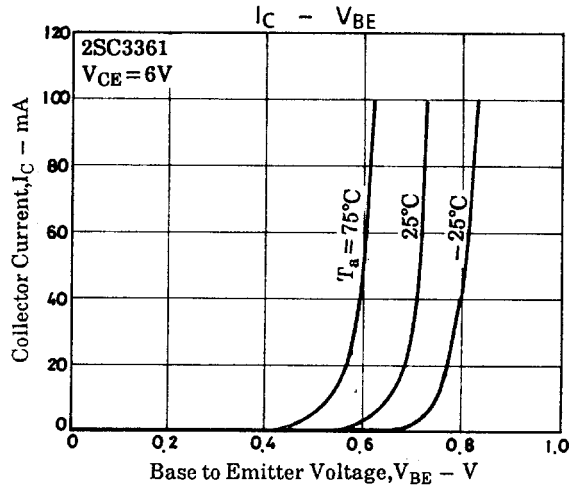
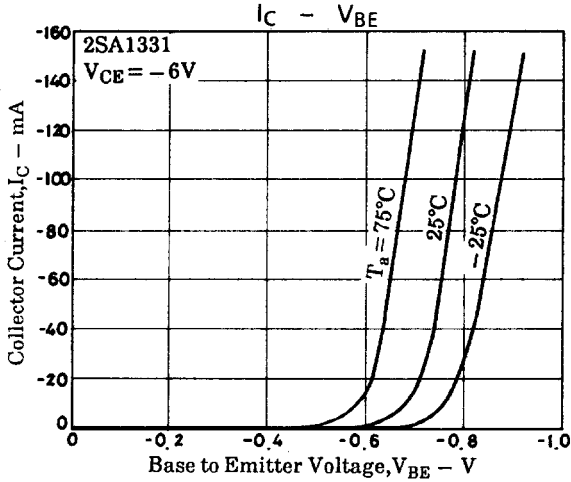
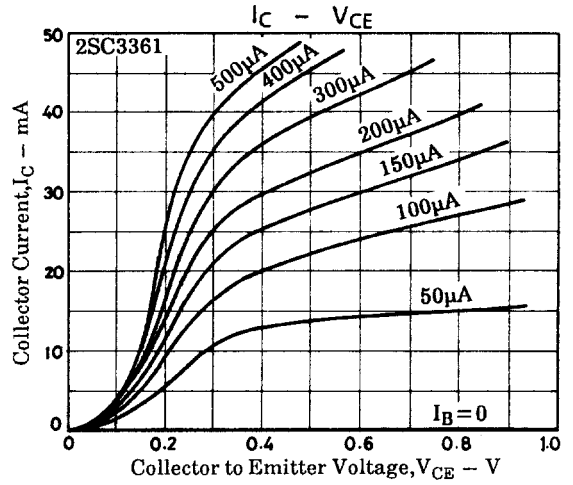
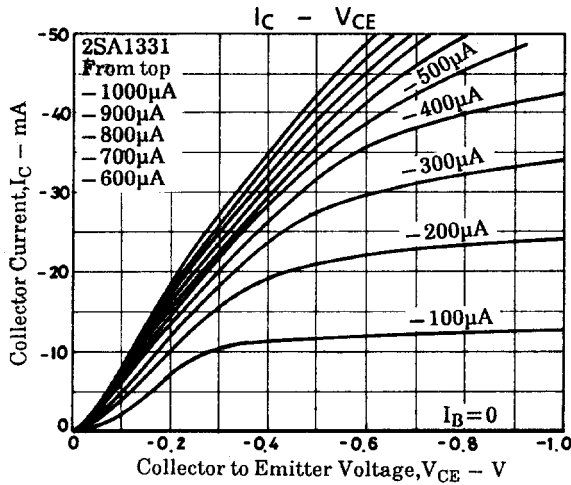
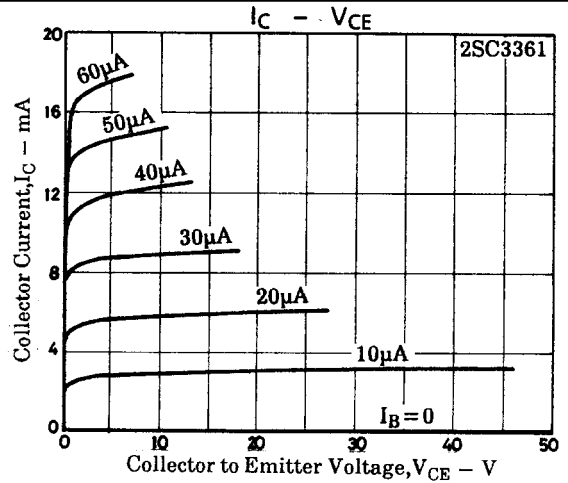
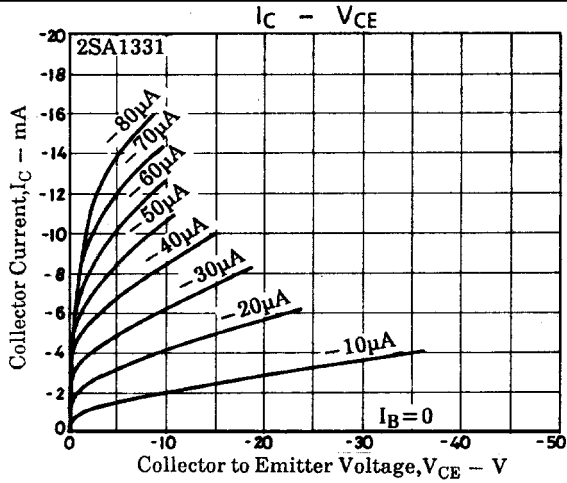
90	4	180	135	5	270	200	6	400
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Marking 2SA1331 : O, 2SC3361 : S

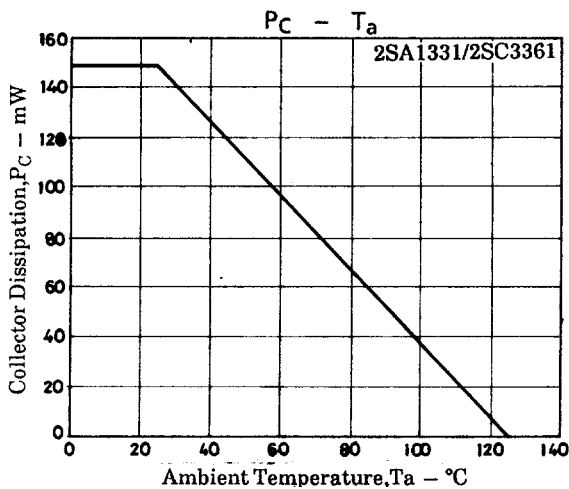
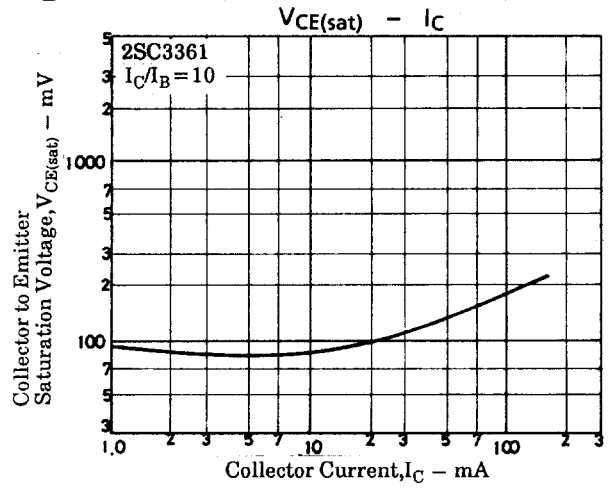
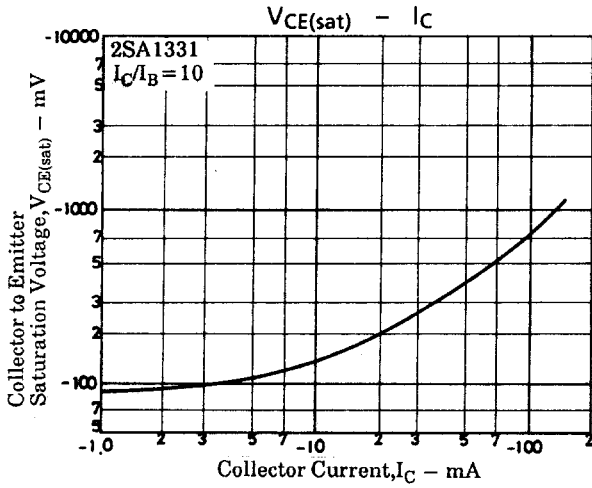
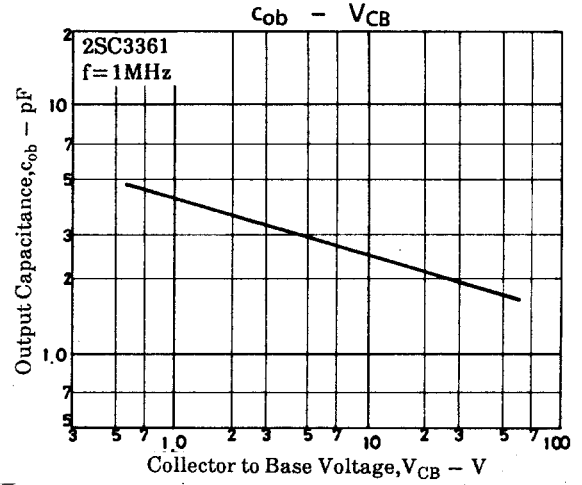
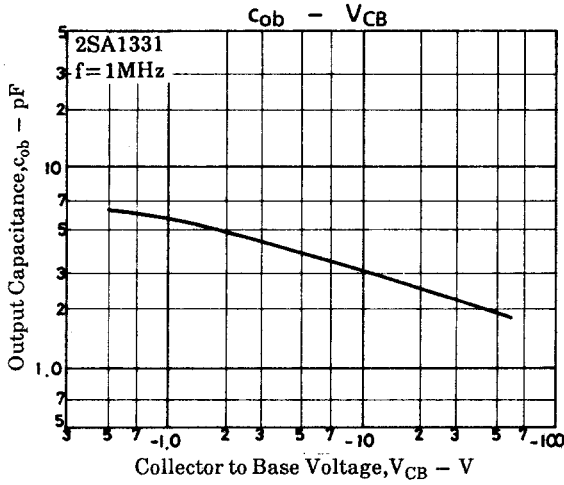
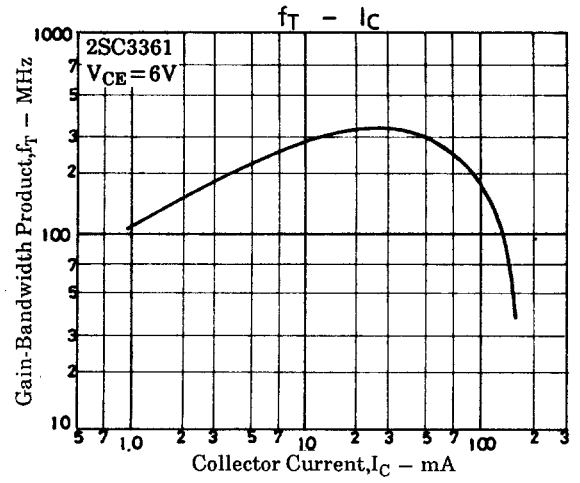
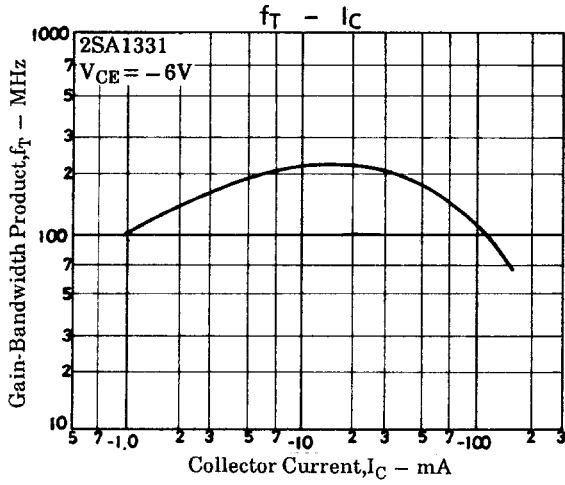
 $h_{FE}$  rank : 4, 5, 6**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

# 2SA1331/2SC3361



# 2SA1331/2SC3361



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