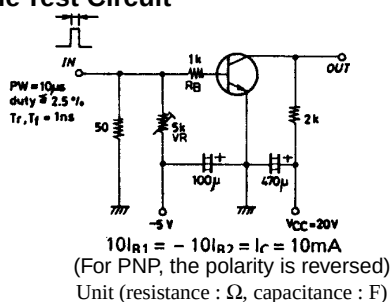


SANYO**2SA1331/2SC3361****High-Speed Switching Applications****Features**

- 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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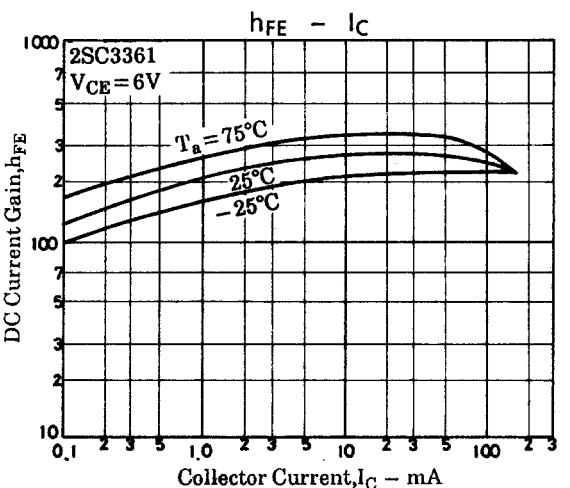
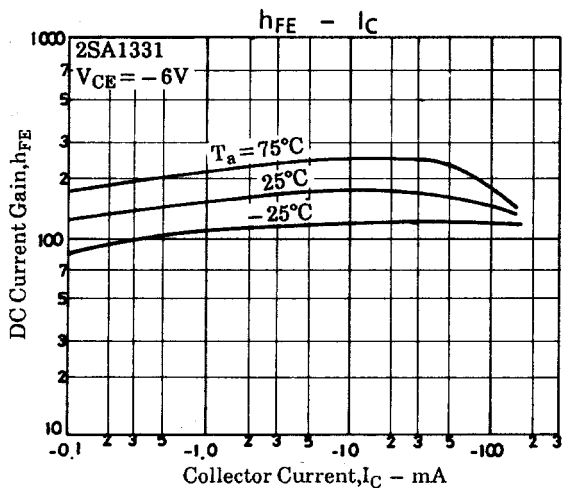
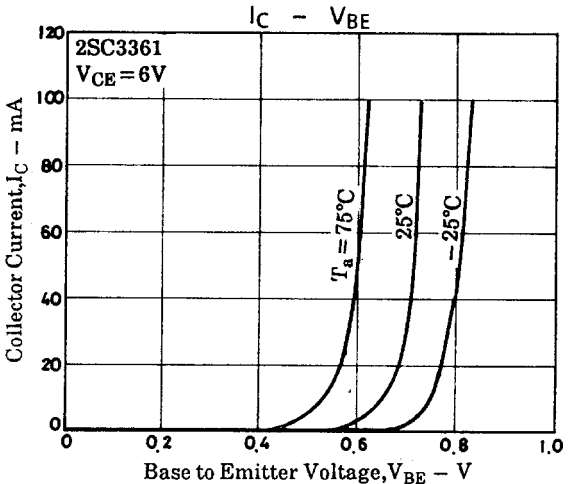
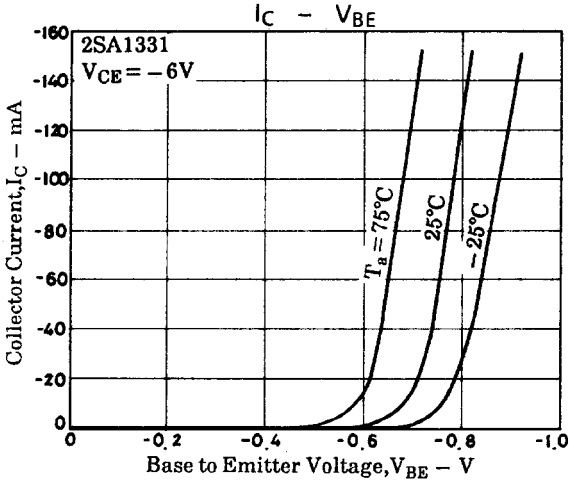
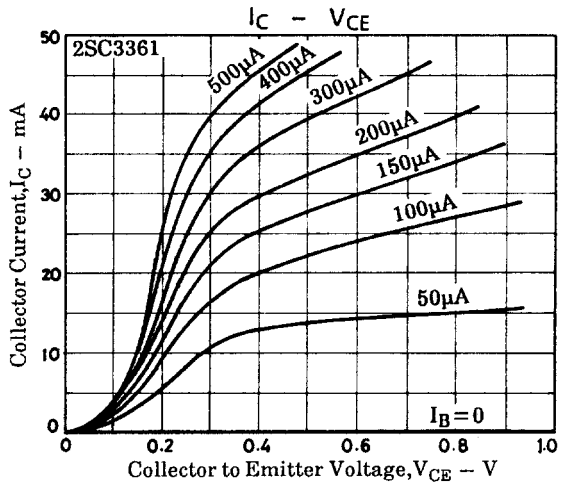
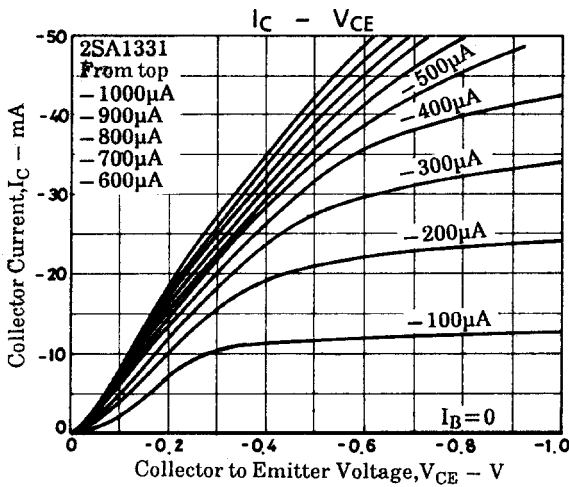
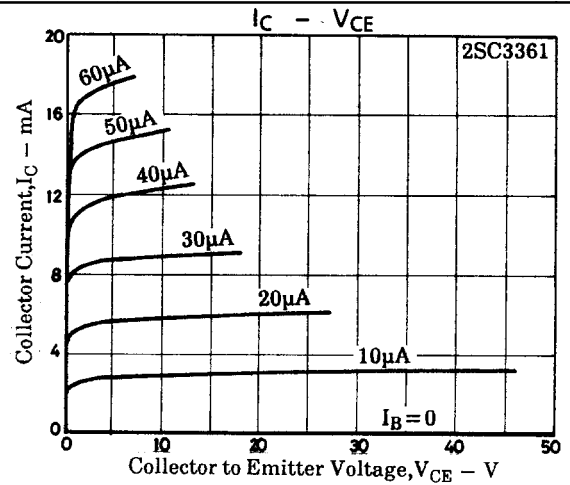
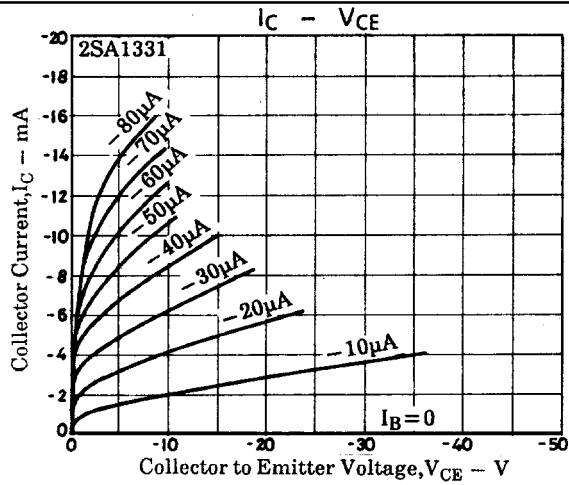
Marking 2SA1331 : O, 2SC3361 : S

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

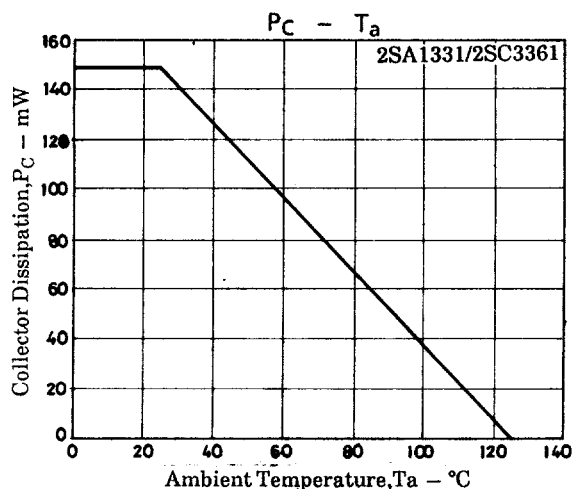
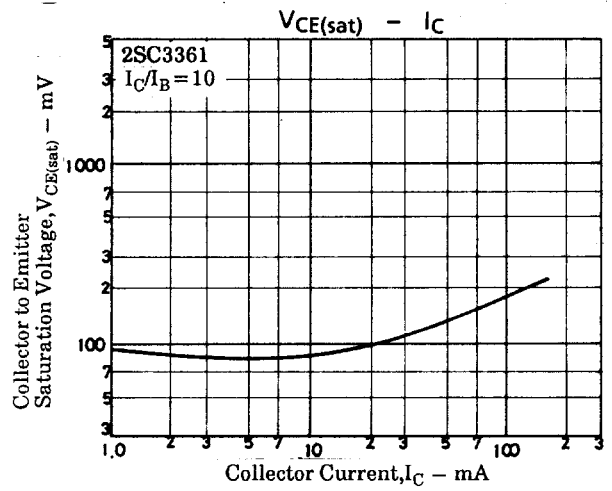
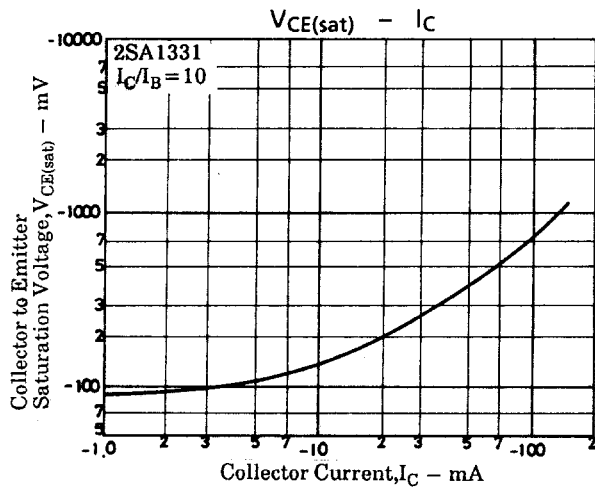
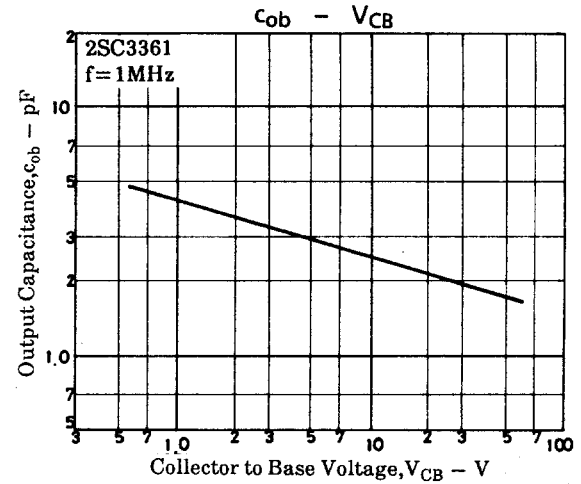
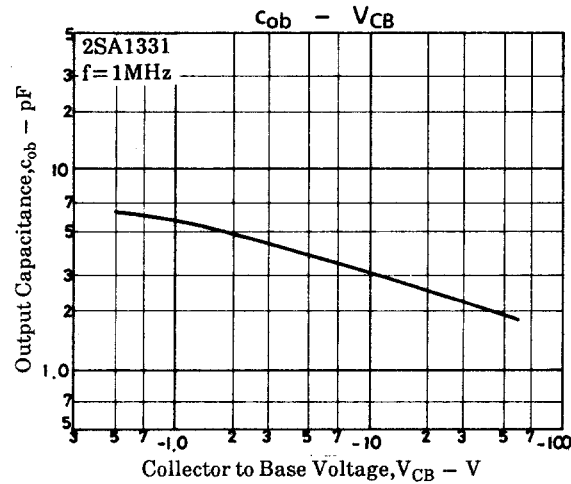
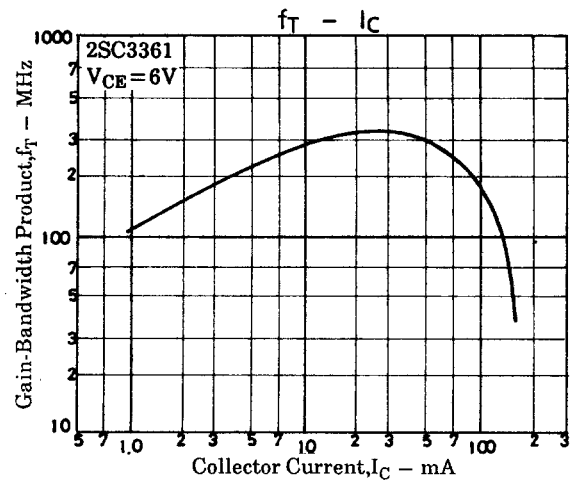
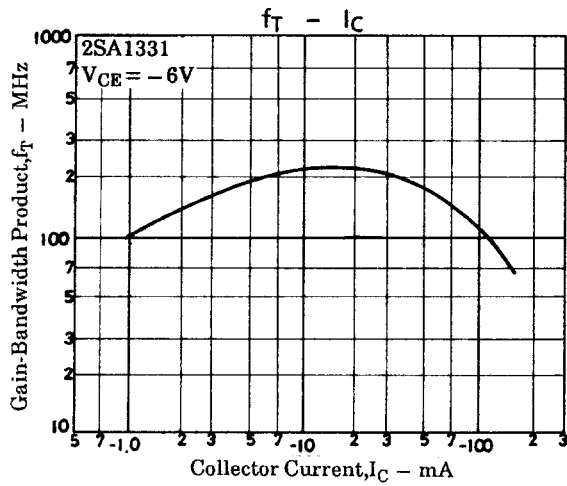
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2SA1331/2SC3361



2SA1331/2SC3361



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