

SANYO

No.3578

2SA1770/2SC4614

PNP/NPN Epitaxial Planar Silicon Transistors

High-Voltage Switching Applications**Features**

- Adoption of MBIT process
- High breakdown voltage and large current capacity

(): 2SA1770

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

			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	(-)1.5	A
Collector Current(Pulse)	I_{CP}	(-)2.5	A
Collector Dissipation	P_C	1	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

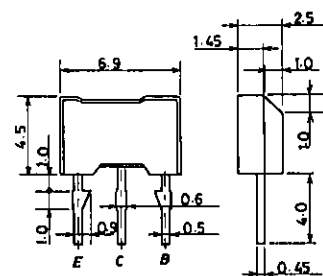
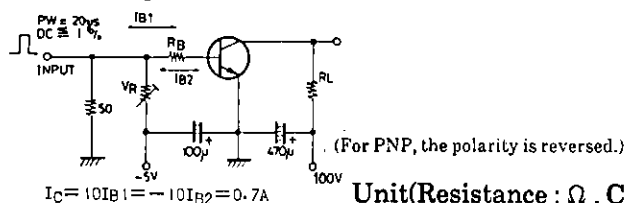
Electrical Characteristics at $T_a = 25^\circ\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)120\text{V}, I_E = 0$			(-)1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = (-)5\text{V}, I_C = (-)100\text{mA}$	100 *		400 *	
	$h_{FE(2)}$	$V_{CE} = (-)5\text{V}, I_C = (-)10\text{mA}$	80			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$		120		MHz
Output Capacitance	C_{ob}	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(22)		pF
				14		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)500\text{mA}, I_B = (-)50\text{mA}$		(-200)	(-500)	mV
				130	450	mV
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)500\text{mA}, I_B = (-)50\text{mA}$		(-)0.85	(-)1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$	(-)180			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{FE} = \infty$	(-)160			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu\text{A}, I_C = 0$	(-)6			V

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* : The 2SA1770/2SC4614 are classified by 100mA h_{FE} as follows :

100 R 200 140 S 280 200 T 400

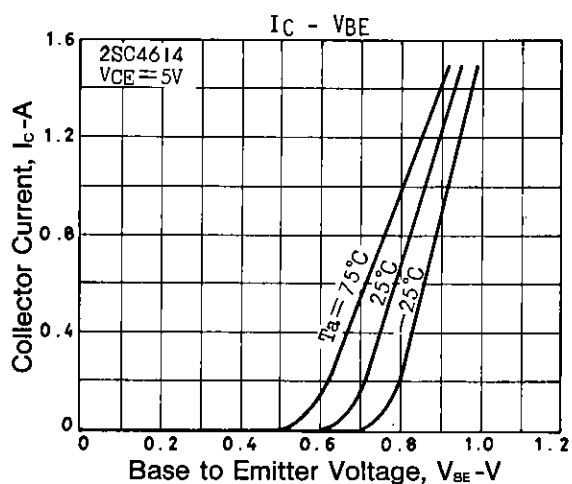
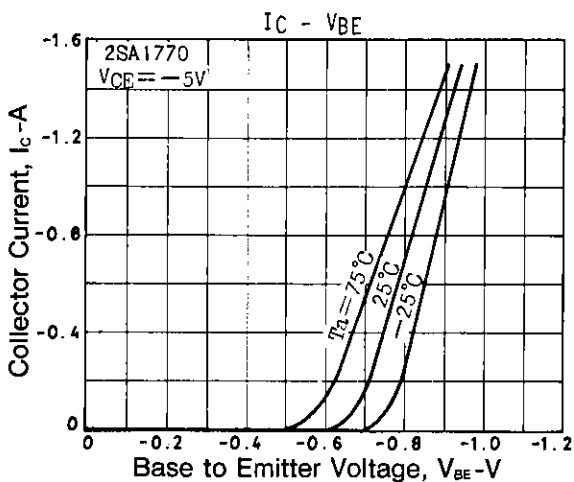
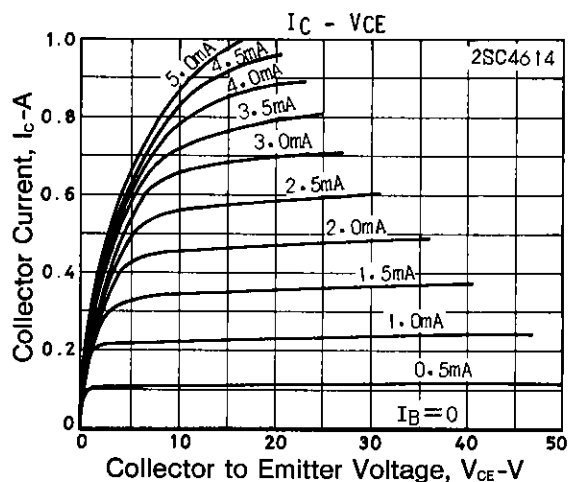
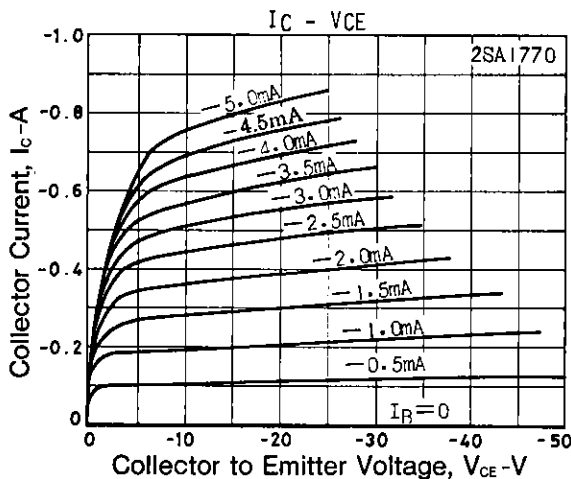
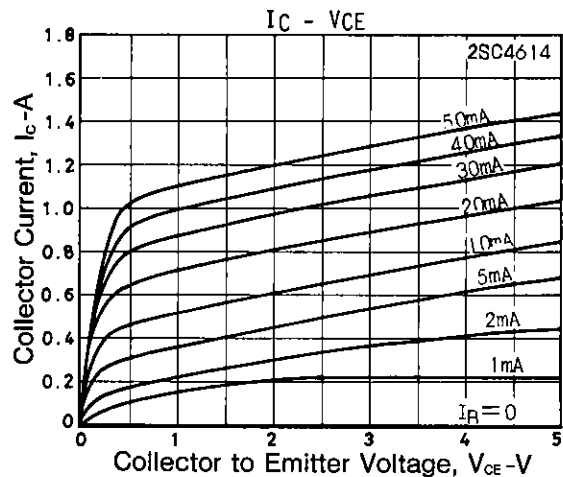
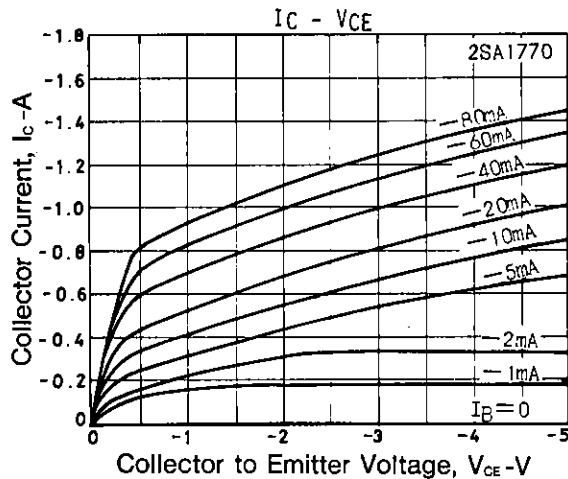
Package Dimensions 2064
(unit: mm) h_{FE} rank : R, S, T**Switching Time Test Circuit**

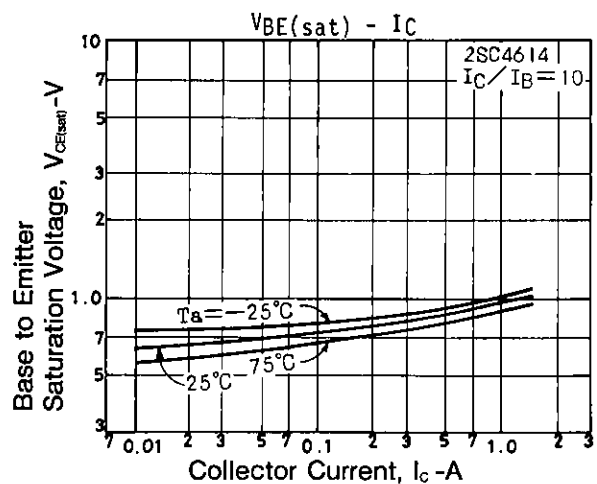
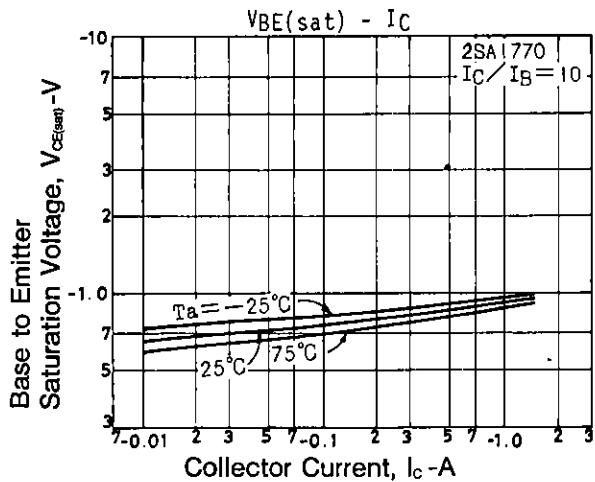
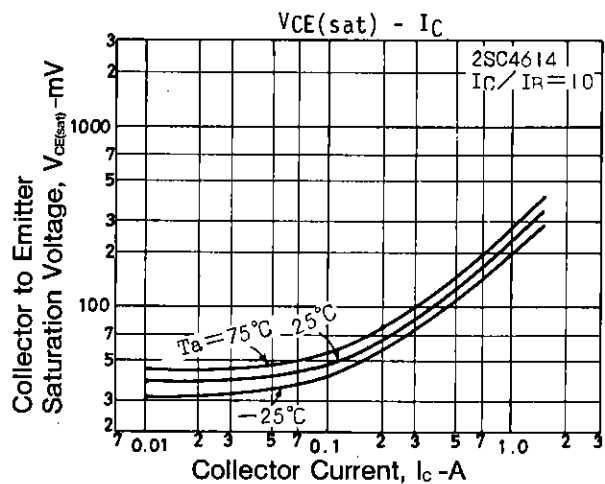
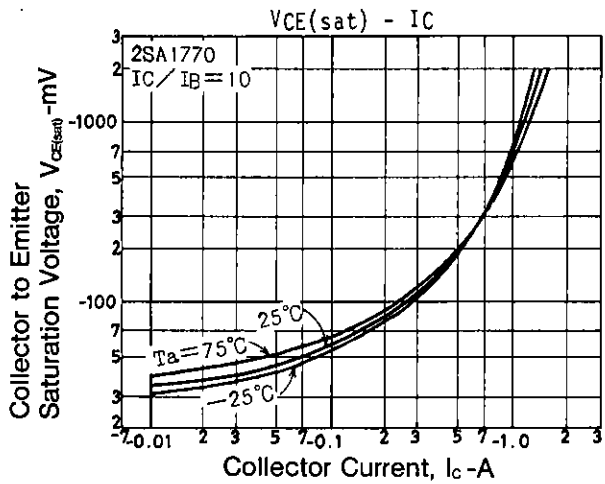
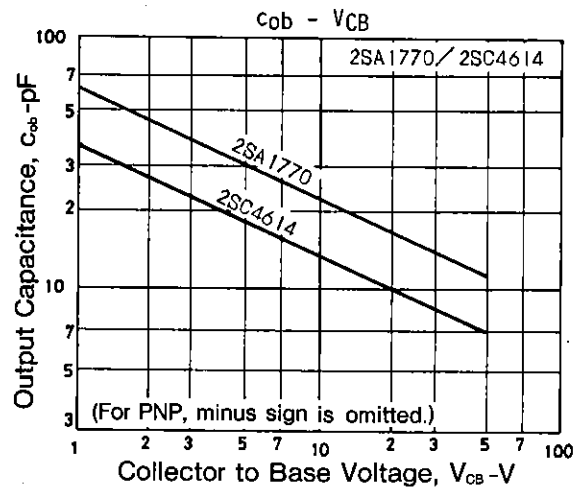
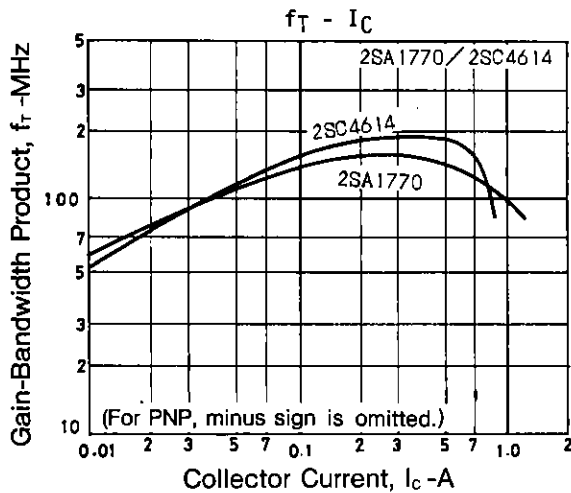
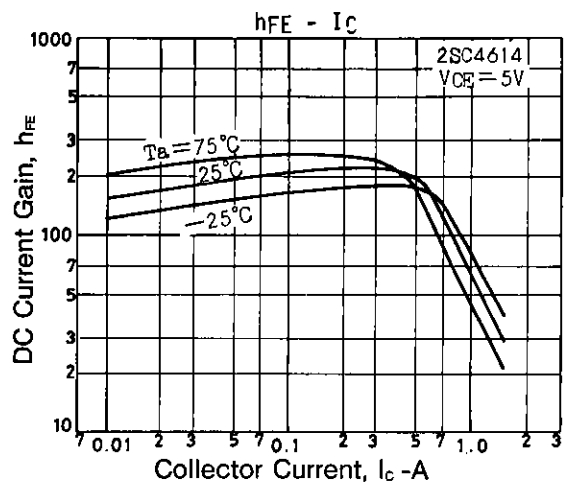
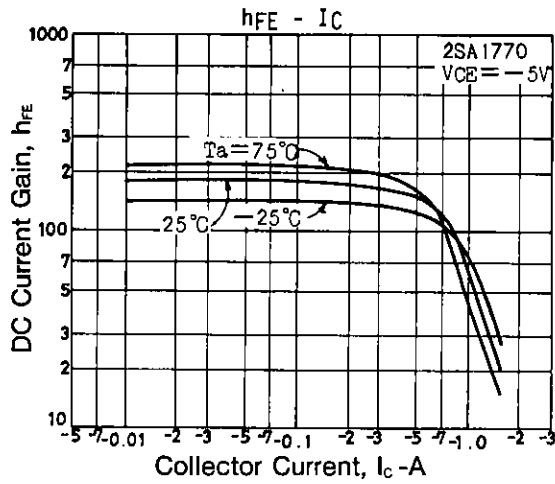
E: Emitter
C: Collector
B: Base
SANYO: NMP

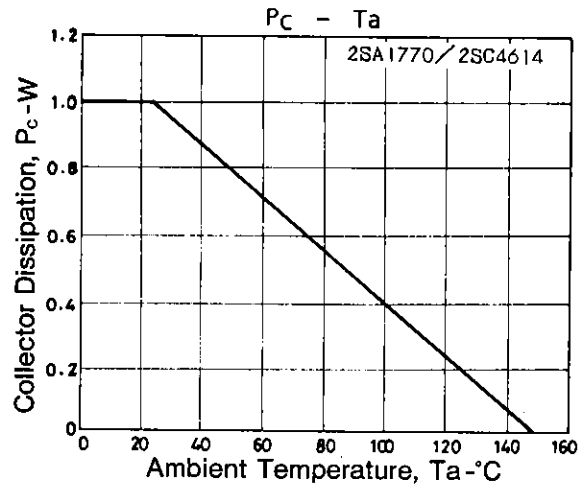
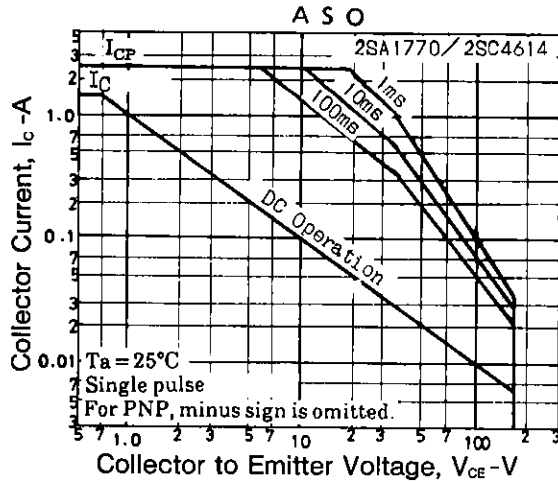
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Turn-on Time	t_{on}	See specified Test Circuit.	min	typ	max	unit
		"		(40)		ns
Storage Time	t_{stg}	"		40		ns
		"		(0.7)		μs
Fall time	t_f	"		1.2		μs
		"		(40)		ns
		"		80		ns







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