

SANYO

No.3093

2SA1707/2SC4487

PNP/NPN Epitaxial Planar Silicon Transistors

High-Current Switching Applications

Features

- Adoption of FBET, MBIT processes
- Large current capacity, wide ASO
- Low collector-to-emitter saturation voltage
- Fast switching speed

() : 2SA1707

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

			unit
Collector to Base Voltage	V_{CBO}	(-)60	V
Collector to Emitter Voltage	V_{CEO}	(-)50	V
Emitter to Base Voltage	V_{EBO}	(-)6	V
Collector Current	I_C	(-)3	A
Collector Current(Pulse)	I_{CP}	(-)6	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 $T_a = 25^\circ\text{C}$

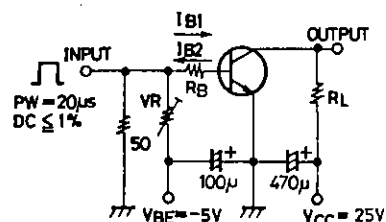
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)40\text{V}, I_E = 0$			(-)1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)1	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE} = (-)2\text{V}, I_C = (-)100\text{mA}$	100*		400*	
	$h_{FE}(2)$	$V_{CE} = (-)2\text{V}, I_C = (-)3\text{A}$	35			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$		150		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)2\text{A}, I_B = (-)100\text{mA}$	(-)0.35	(-)0.7		V
			0.2	0.5		
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)2\text{A}, I_B = (-)100\text{mA}$	(-)0.95	(-)1.2		V
Output Capacitance	c_{ob}	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(39)25		pF
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$	(-)60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$	(-)50			V
E-B 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.		70		ns
Storage Time	t_{stg}	"		(450)		ns
				650		
Fall Time	t_f	"		35		ns

*: The 2SA1707/2SC4487 are classified by 100mA h_{FE} as follows:

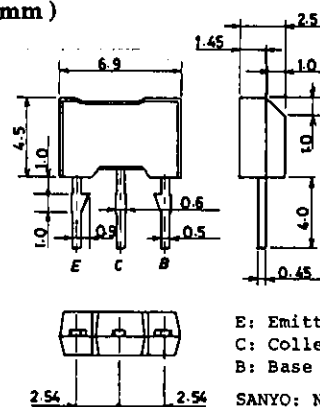
100 R 200	140 S 280	200 T 400
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Package Dimensions
(unit: mm)

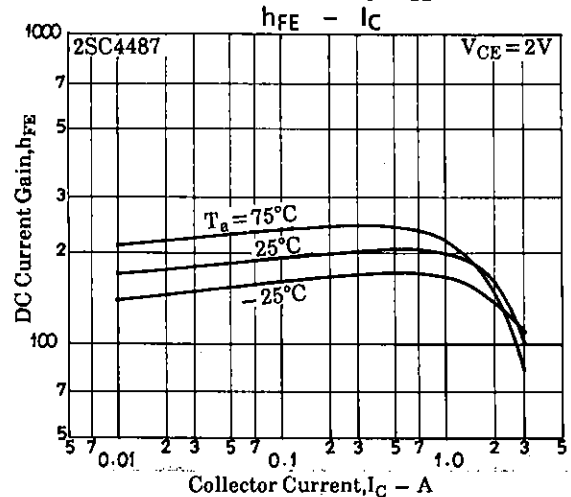
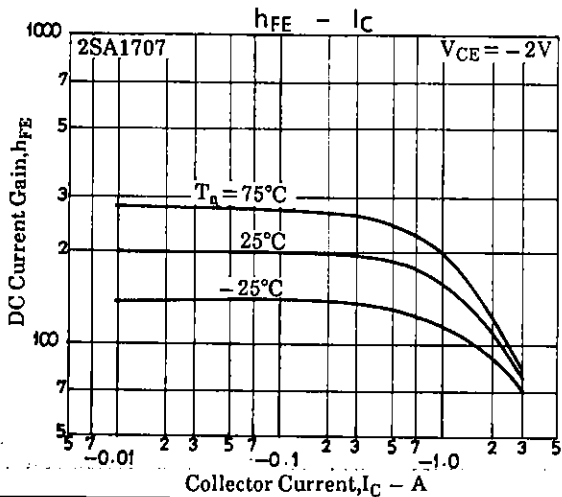
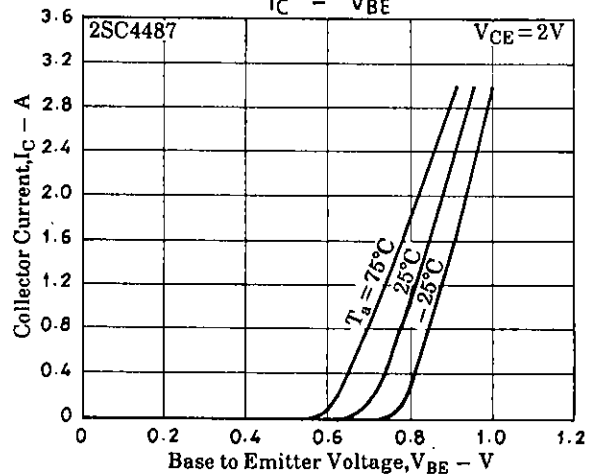
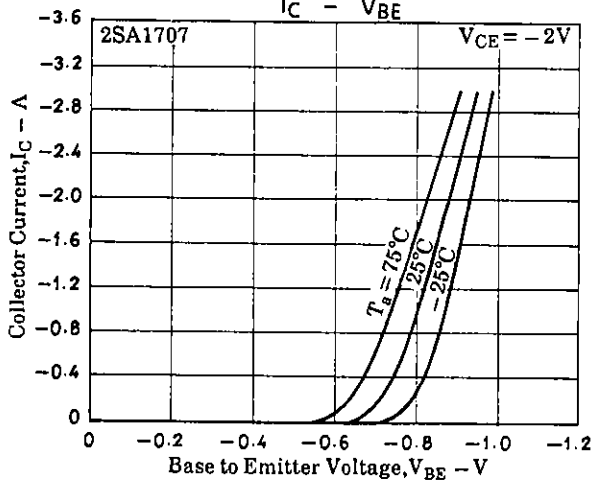
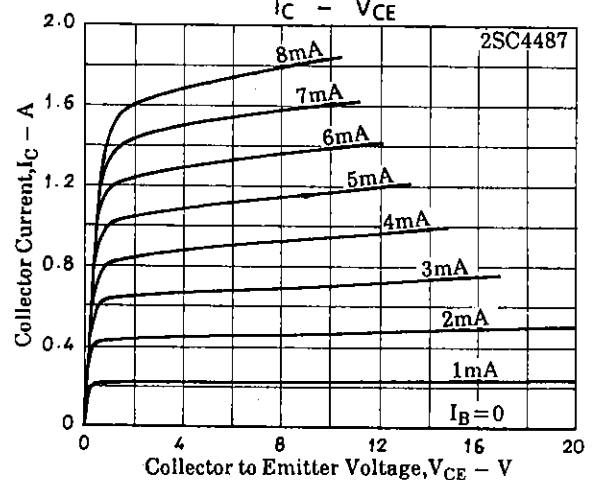
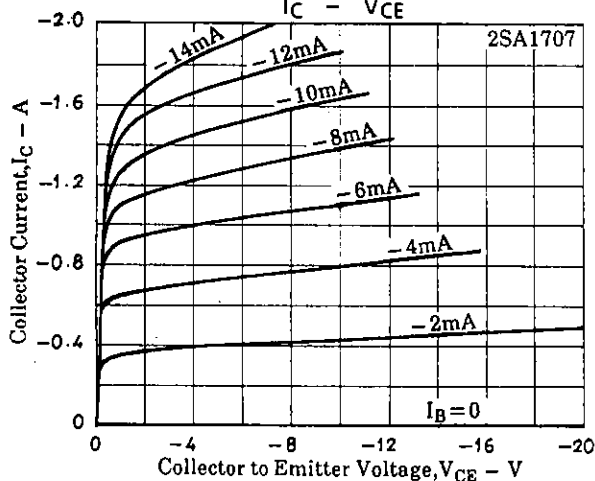
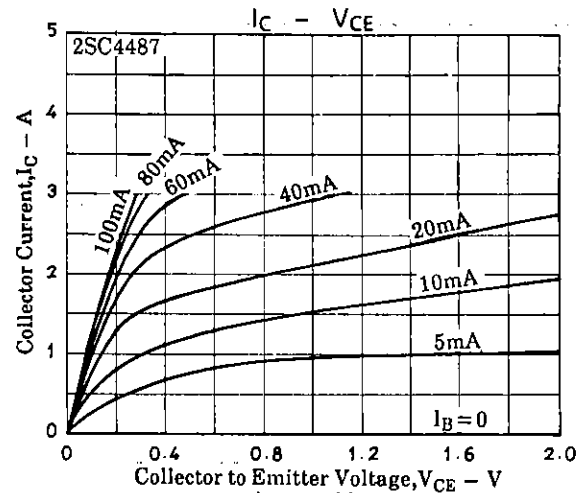
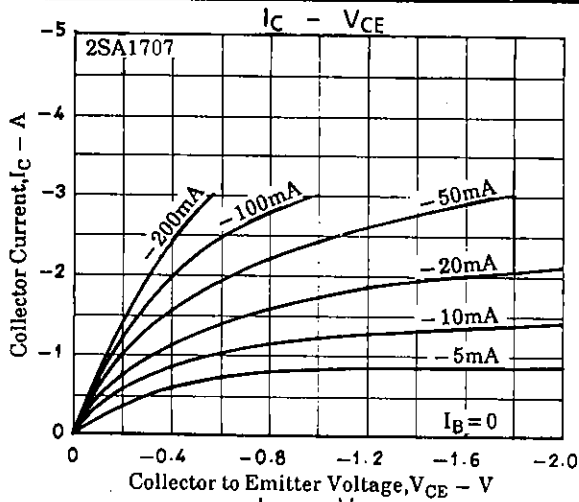
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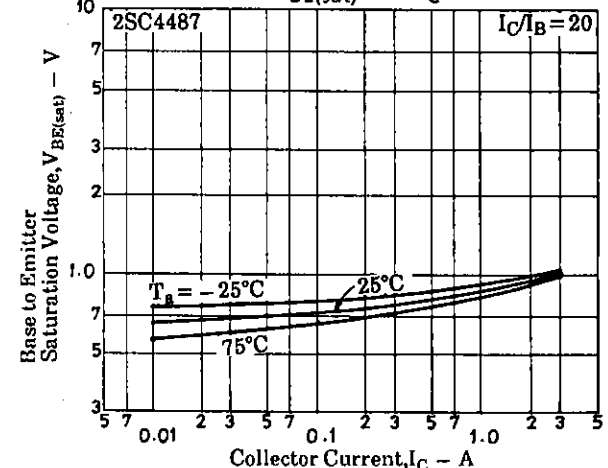
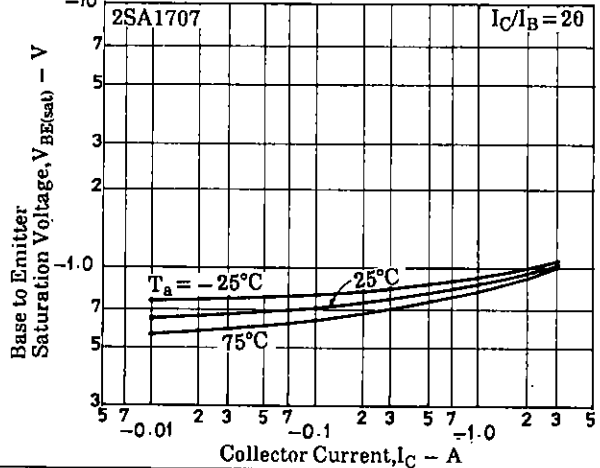
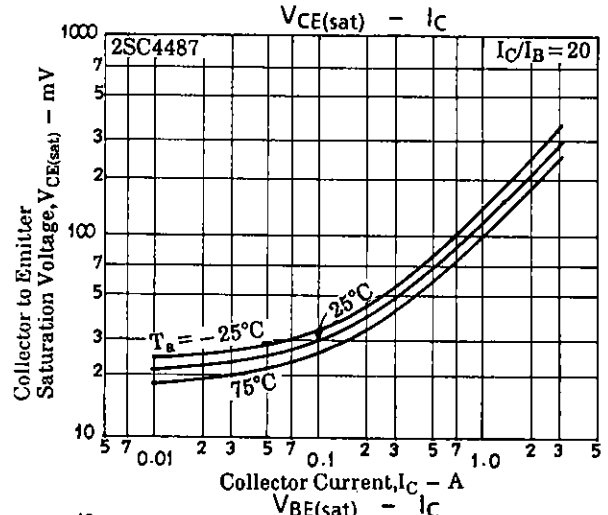
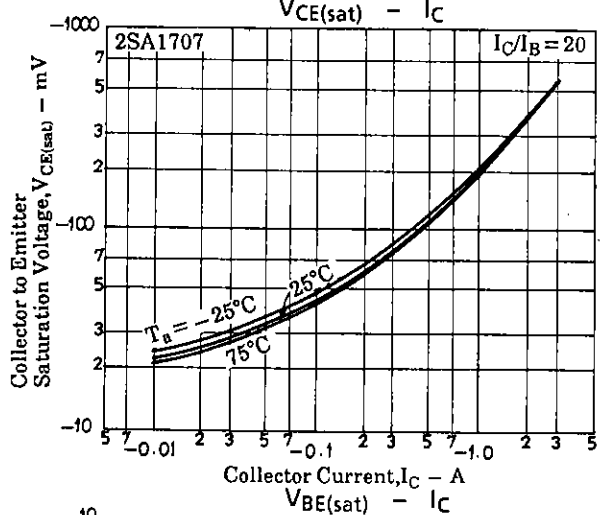
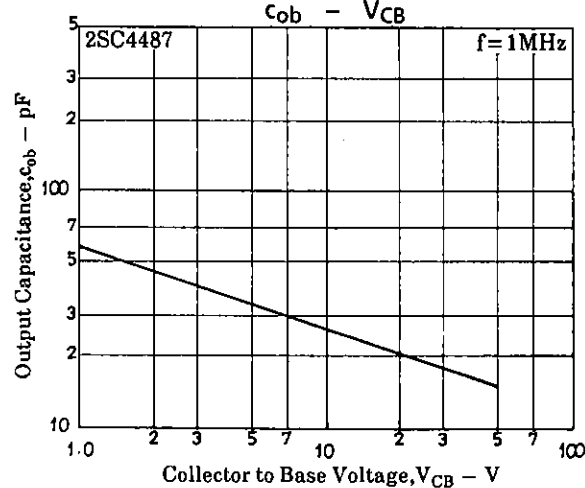
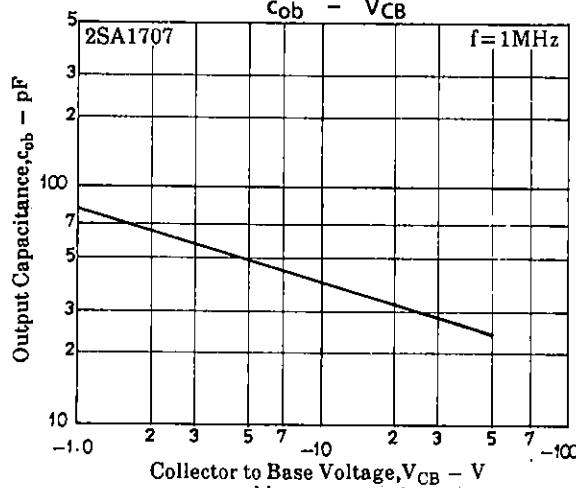
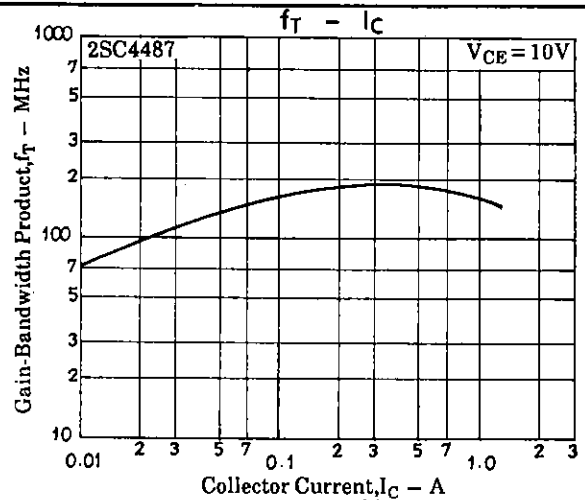
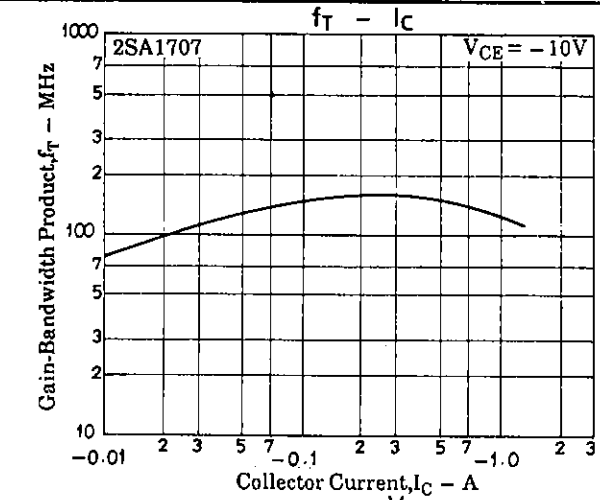
Switching Time Test Circuit

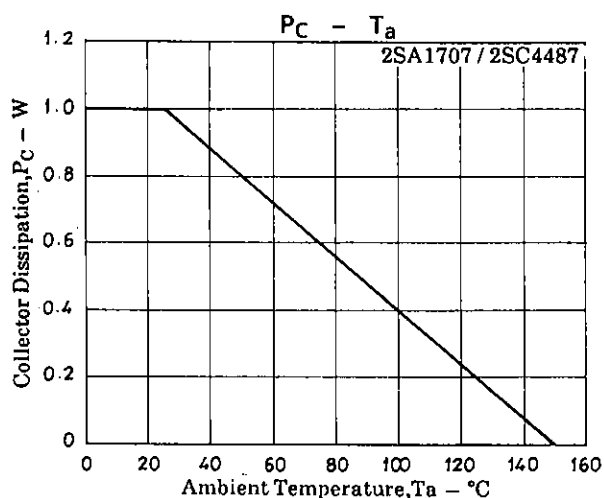
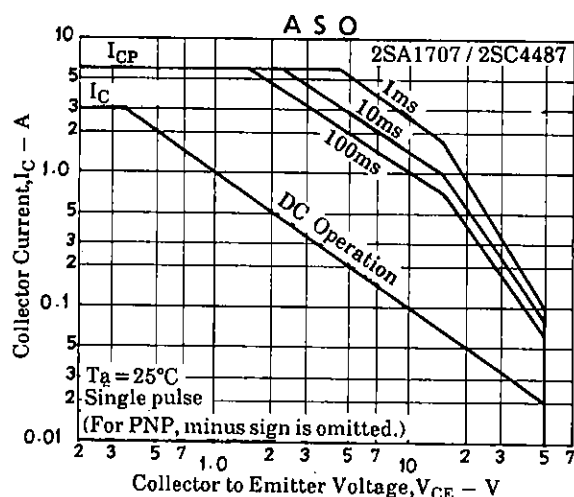
$10I_{B1} = -10I_{B2} = I_C = 1\text{A}$ Unit(Resistance : Ω , Capacitance : F)
(For PNP, the polarity is reversed.)



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







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