

SANYO

No.3026

2SA1706/2SC4486

PNP/NPN Epitaxial Planar Silicon Transistors

High-Current Switching Applications

Applications

- Voltage regulators, relay drivers, lamp drivers.

Features

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

() : 2SA1706

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

			unit
Collector to Base Voltage	V_{CB0}	(-) 60	V
Collector to Emitter Voltage	V_{CE0}	(-) 50	V
Emitter to Base Voltage	V_{EB0}	(-) 6	V
Collector Current	I_C	(-) 2	A
Collector Current(Pulse)	I_{CP}	(-) 4	A
Collector Dissipation	P_C	1	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to $+150$	$^\circ\text{C}$

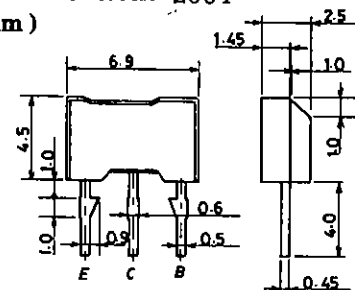
Electrical Characteristics at $T_a = 25^\circ\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)50\text{V}, I_E = 0$			(-) 100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-) 100	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = (-)2\text{V}, I_C = (-)100\text{mA}$	100^*		400^*	
	$h_{FE(2)}$	$V_{CE} = (-)2\text{V}, I_C = (-)1.5\text{A}$	40			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$		150		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)1\text{A}, I_B = (-)50\text{mA}$	(-) 0.3	0.15	(-) 0.7	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)1\text{A}, I_B = (-)50\text{mA}$	(-) 0.9		(-) 1.2	V
Output Capacitance	C_{ob}	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(22) 12		pF

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* : The 2SA1706/2SC4486 are classified by 100mA h_{FE} as follows :

100 R 200	140 S 280	200 T 400
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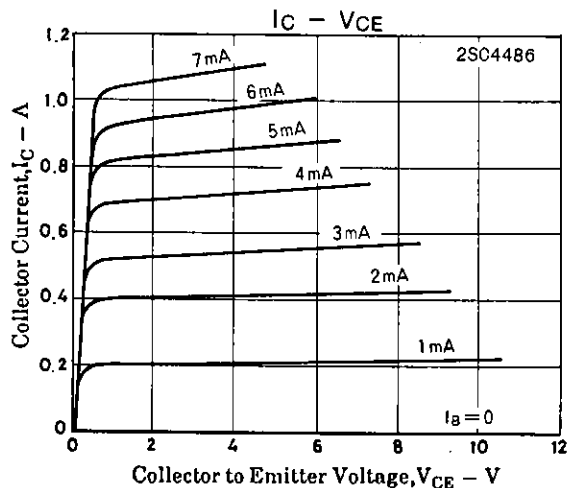
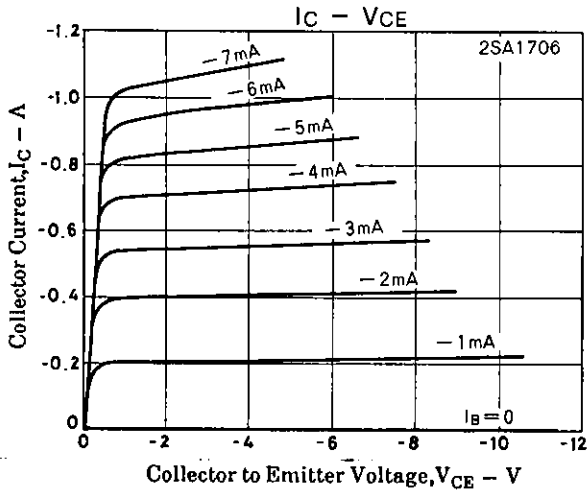
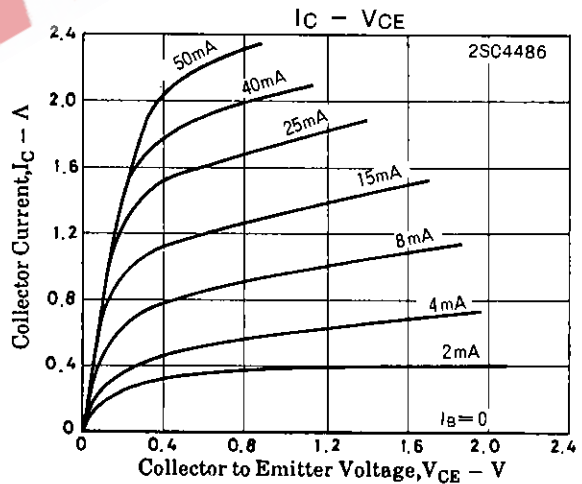
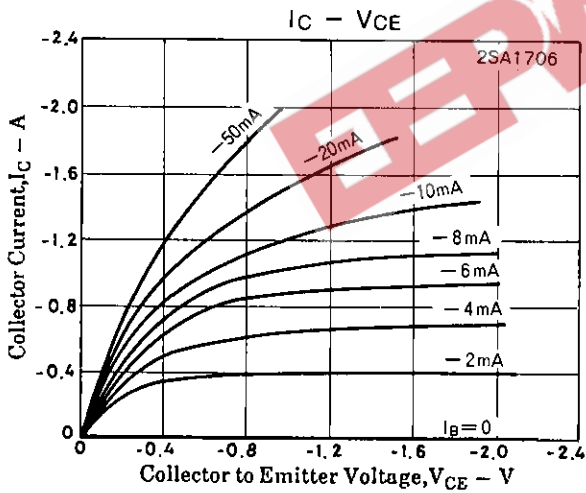
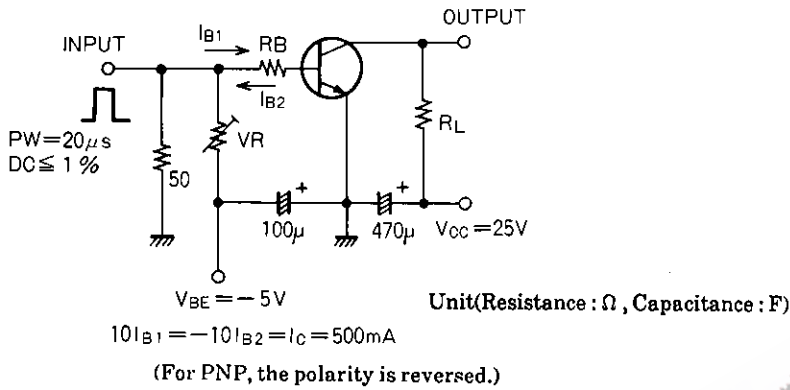
Package Dimensions 2064
(unit: mm)

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

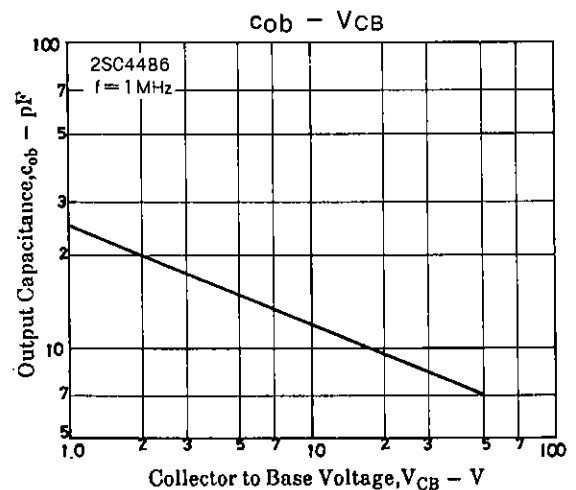
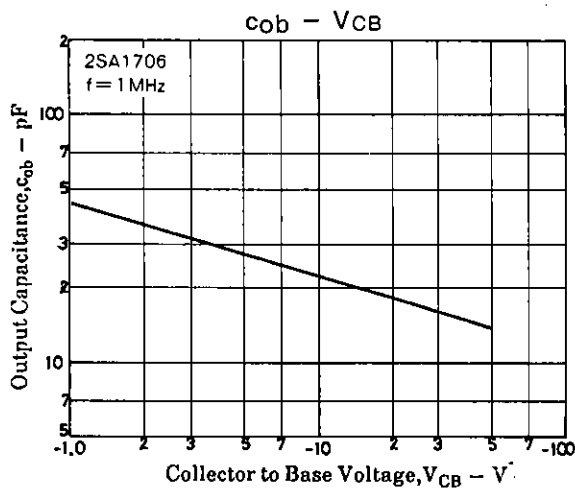
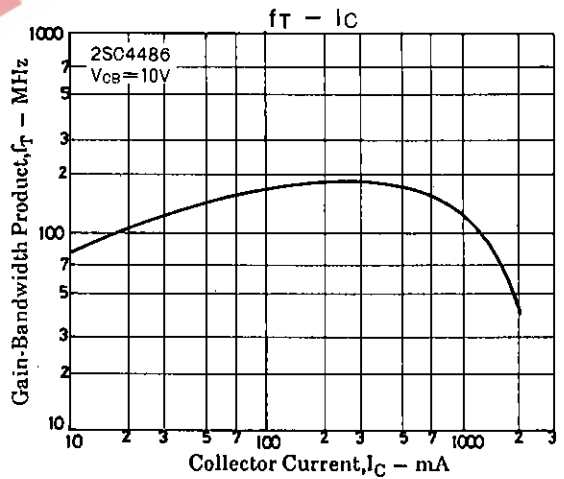
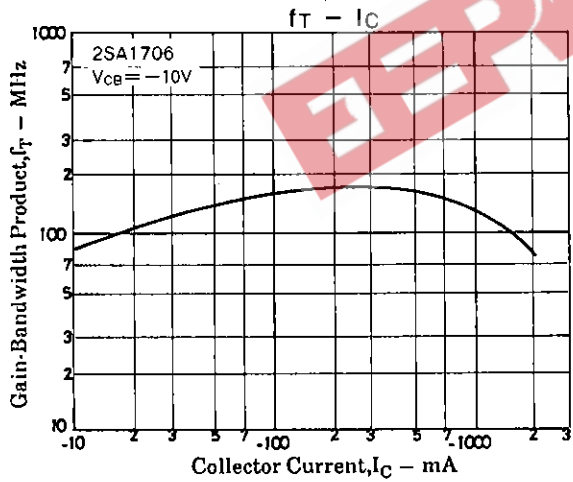
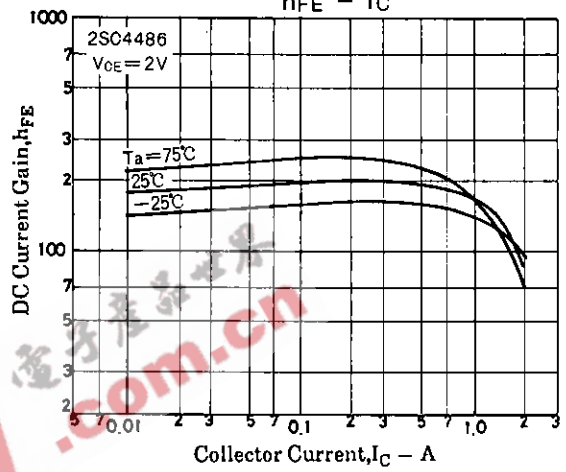
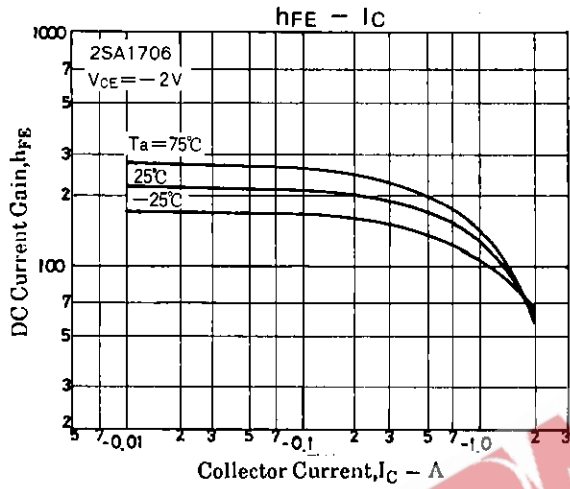
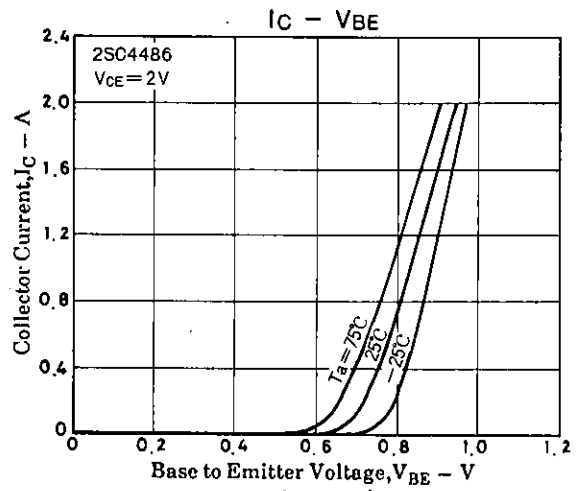
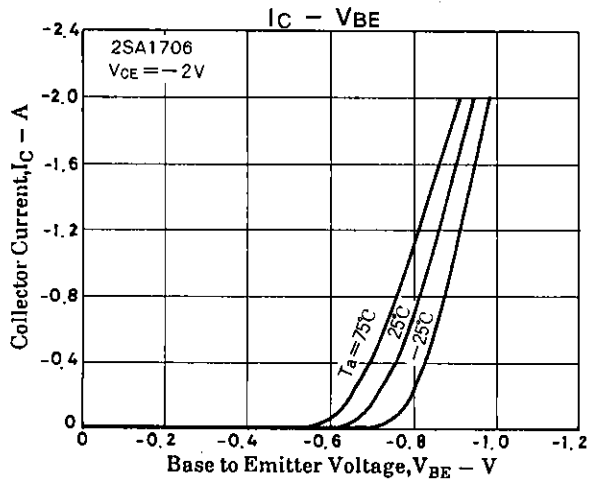
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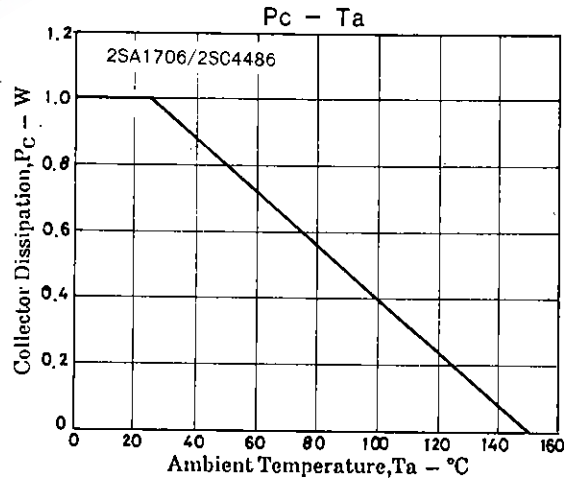
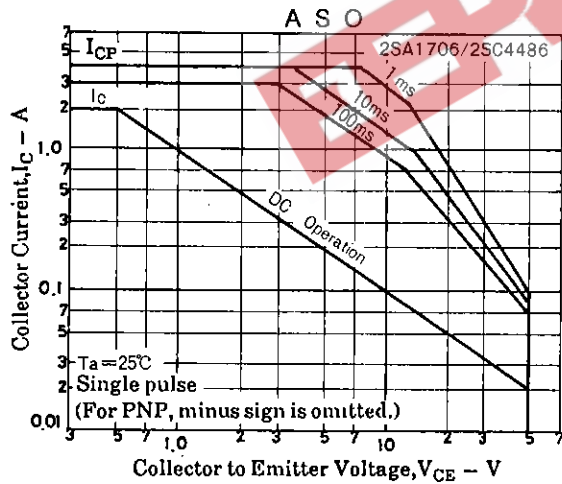
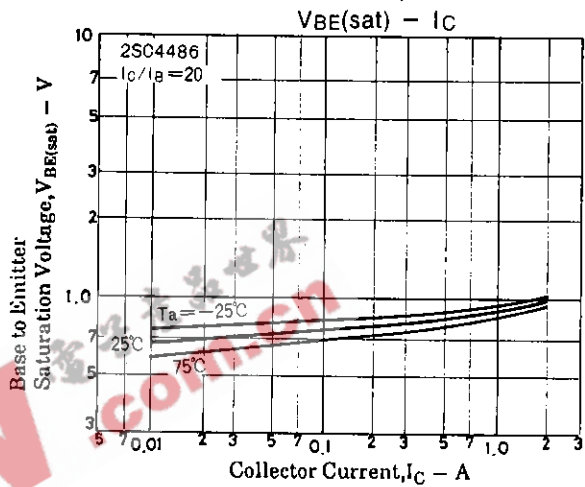
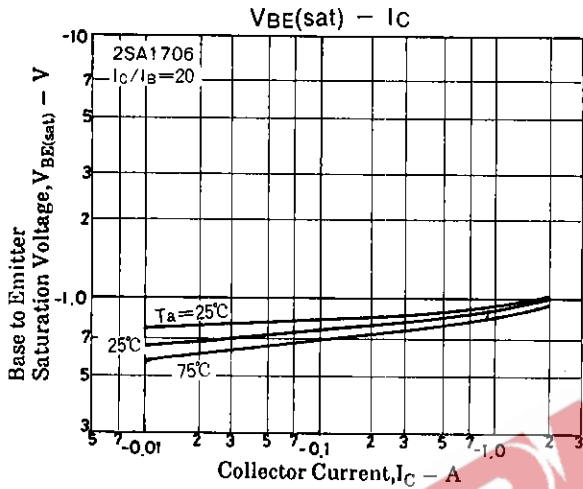
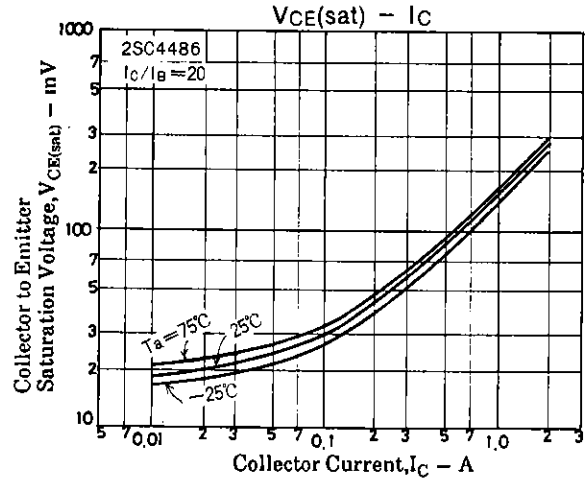
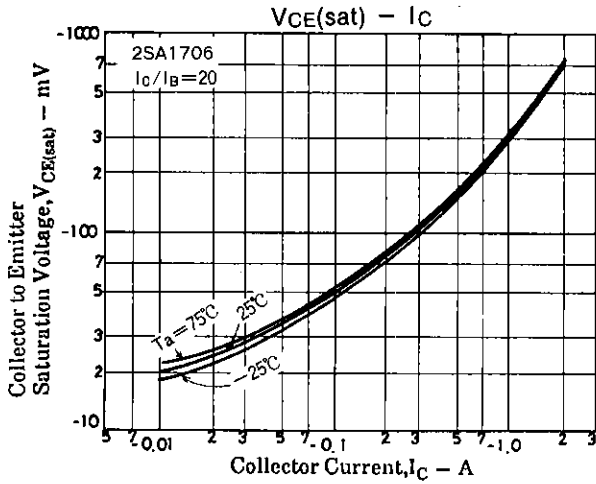
		min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO} I_C = (-)10\mu A, I_E = 0$	(-)60			V
C-E Breakdown Voltage	$V_{(BR)CEO} I_C = (-)1mA, R_{BE} = \infty$	(-)50			V
E-B Breakdown Voltage	$V_{(BR)EBO} I_E = (-)10\mu A, I_C = 0$	(-)6			V
Turn-ON Time	t_{on} See specified Test Circuit.		60		ns
Storage Time	t_{stg} "		(450)550		ns
Fall Time	t_f "		30		ns

Switching Time Test Circuit



2SA1706/2SC4486





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