



SANYO Semiconductors

## DATA SHEET

An ON Semiconductor Company

# 2SA1708 / 2SC4488

NPN Epitaxial Planar Silicon Transistors  
High-Voltage Switching Application

## Features

- Adoption of FBET, MBIT processes.
- High breakdown voltage, large current capacity.
- Fast switching speed.

## Specifications ( ) : 2SA1708

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

Parameter	Symbol	Conditions	Ratings	Uni
Collector-to-Base Voltage	VCBO		(-)-120	t V
Collector-to-Emitter Voltage	VCEO		(-)-100	V
Emitter-to-Base Voltage	VEBO		(-)-6	V
Collector Current	IC		(-)-1	A
Collector Current (Pulse)	ICP		(-)-2	A
Collector Dissipation	PC		1	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		--55 to +150	°C

## Electrical Characteristics

 at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Uni
			min	typ	max	
Collector Cutoff Current	ICBO	VCB=(-)100V, IE=0A			(-)-100	t nA
Emitter Cutoff Current	IEBO	VEB=(-)4V, IC=0A			(-)-100	nA
DC Current Gain	hFE	VCE=(-)5V, IC=(-)100mA	100*		400*	
Gain-Bandwidth Product	fT	VCE=(-)10V, IC=(-)100mA		120		MHz
Output Capacitance	Cob	VCB=(-)10V, f=1MHz		(13)8.5		pF

Continued on next page.

\* : The 2SA1708 / 2SC4488 are classified by 100mA hFE as follows:

Rank R S T

Rank	R	S	T
		hFE100 to 200	140 to 280
		200 to 400	

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# 2SA1708 / 2SC4488

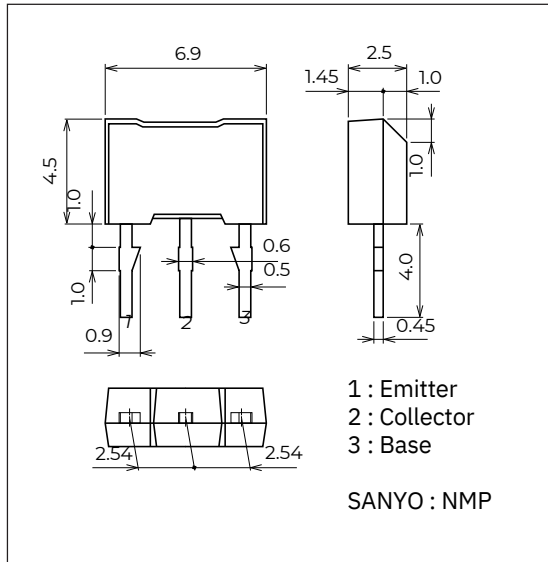
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	VCE(sat)	IC=--400mA, IB=--40mA		(--0.2)0.1	(--0.6)0.4	V
Base-to-Emitter Saturation Voltage	VBE(sat)	IC=--400mA, IB=--40mA		(--)0.85	(--)1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC=--10μA, IE=0A	(--)120			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=--1mA, RBE=∞	(--)100			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=--10μA, IC=0A	(--)6			V
Turn-ON Time	ton	See specified Test Circuit.		(80)80		ns
Storage Time	tstg	See specified Test Circuit.		(700)850		ns
Fall Time	tf	See specified Test Circuit.		(40)50		ns

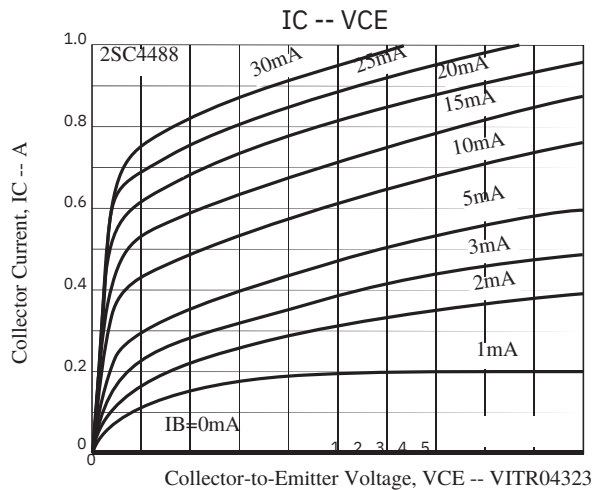
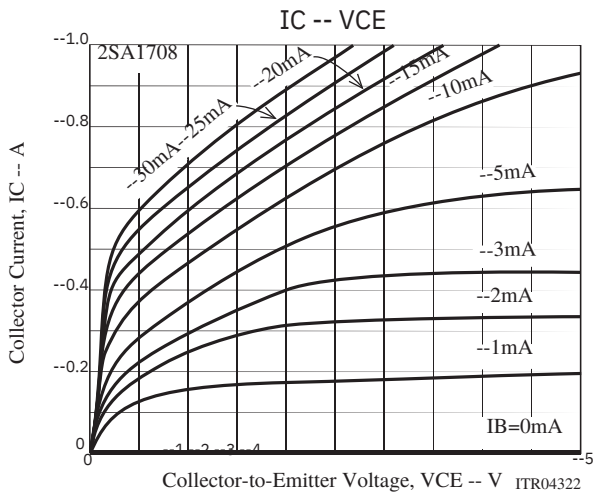
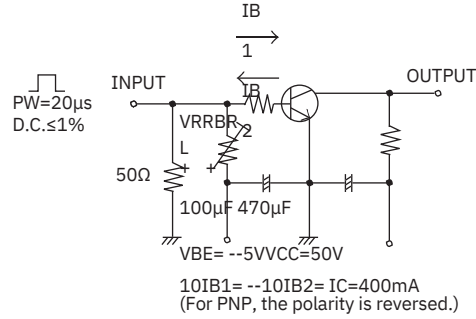
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unit : mm (typ)

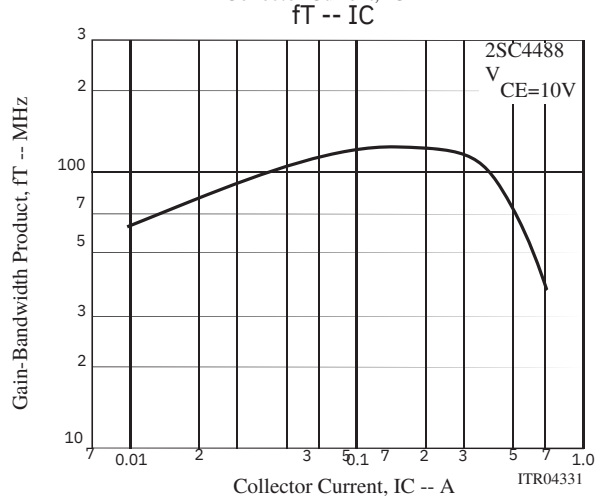
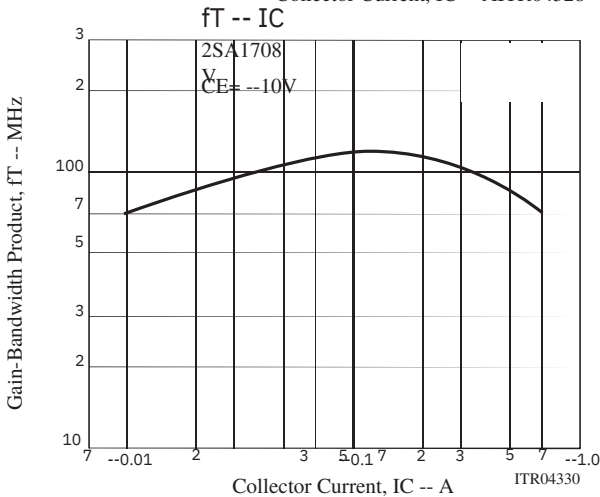
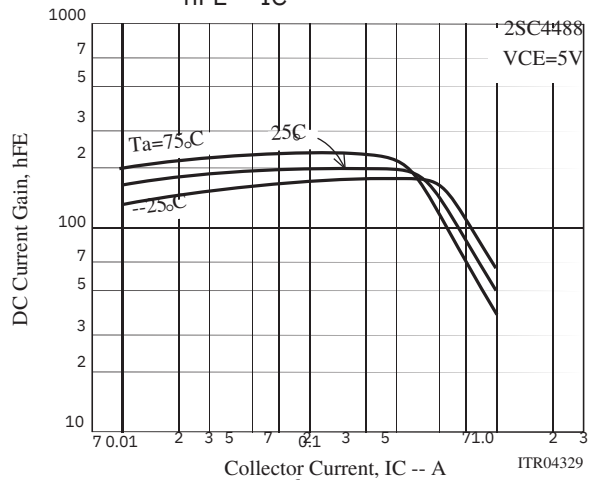
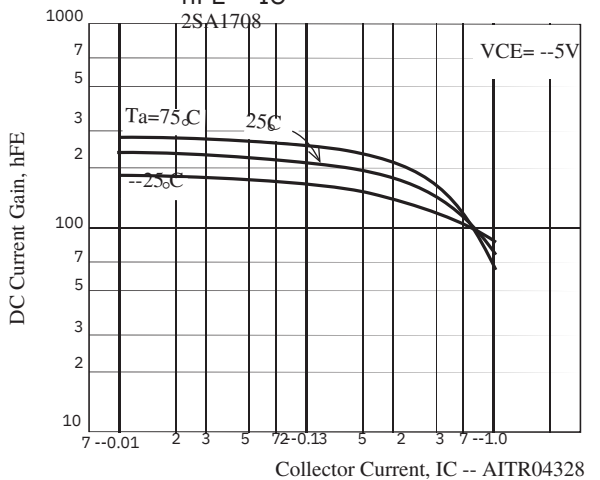
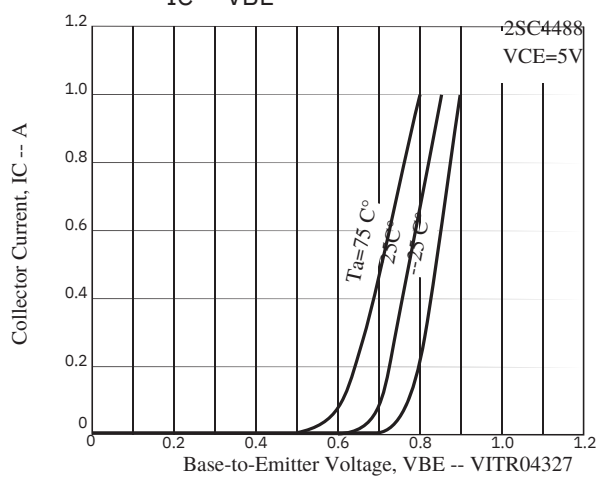
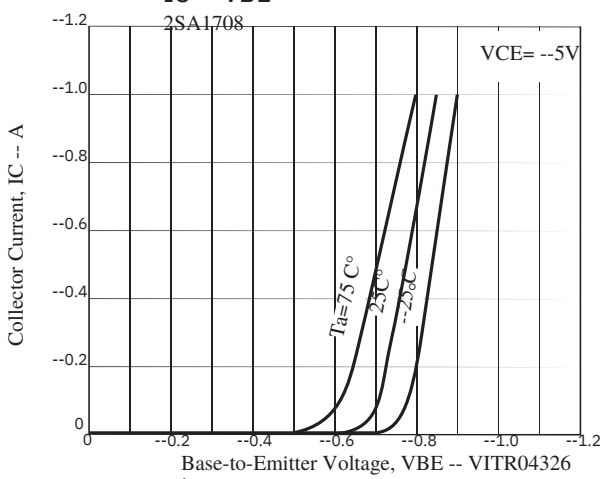
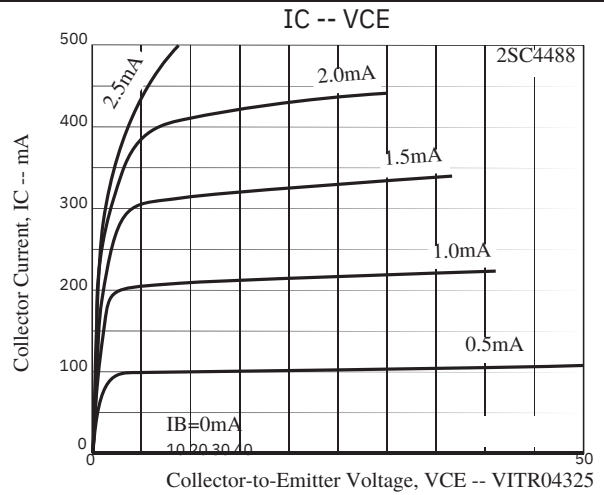
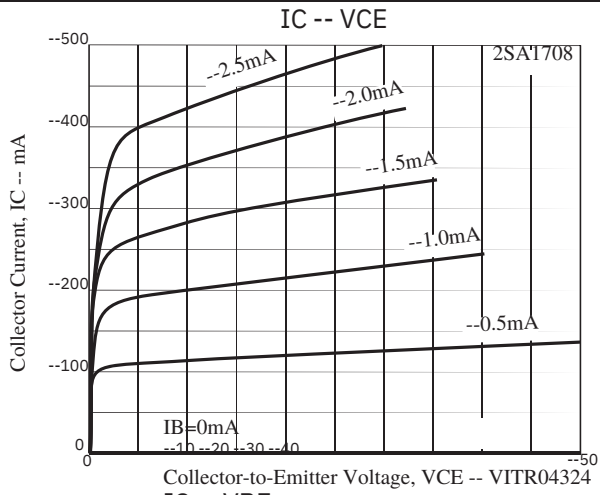
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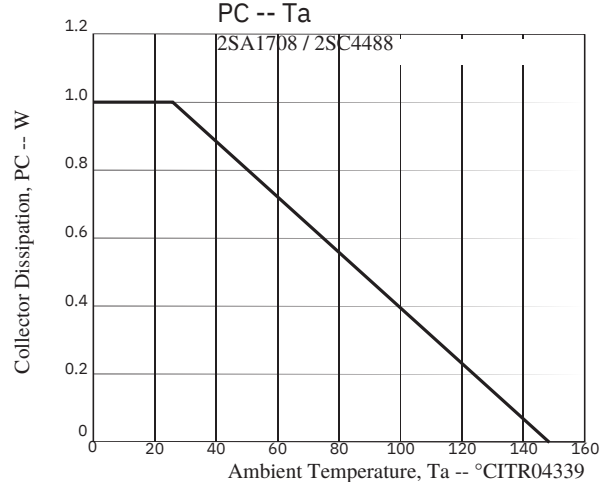
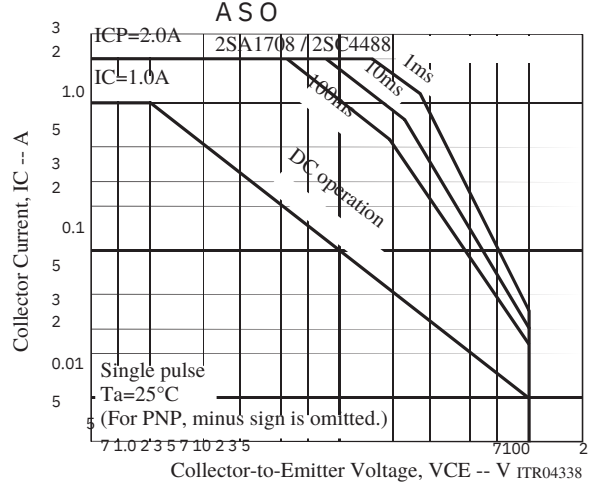
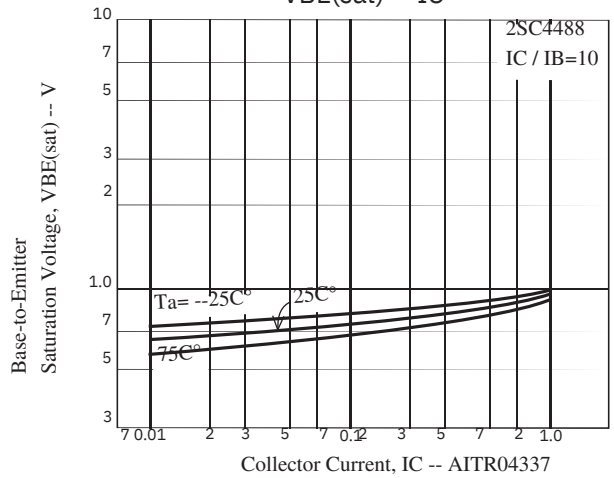
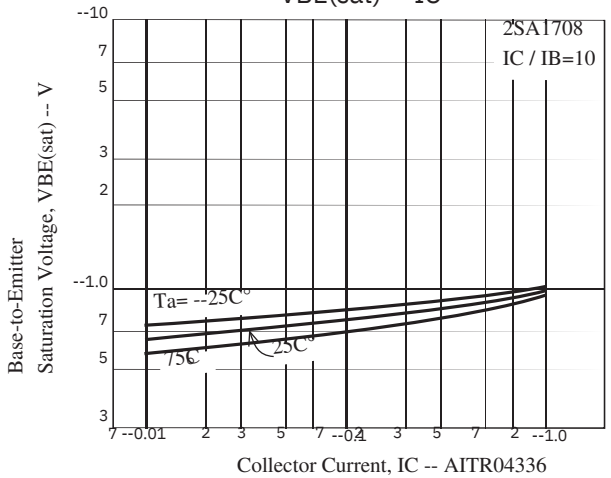
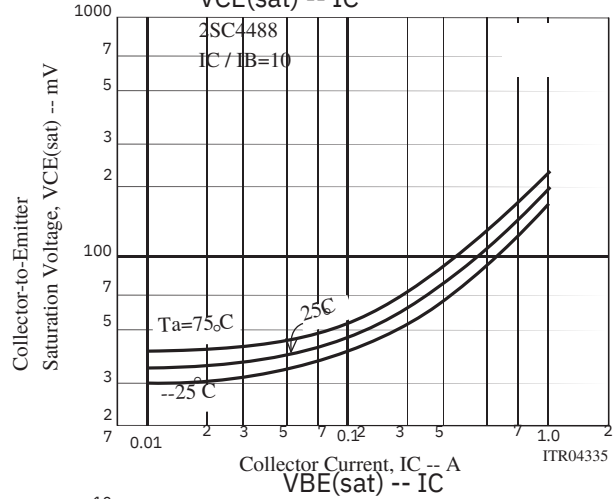
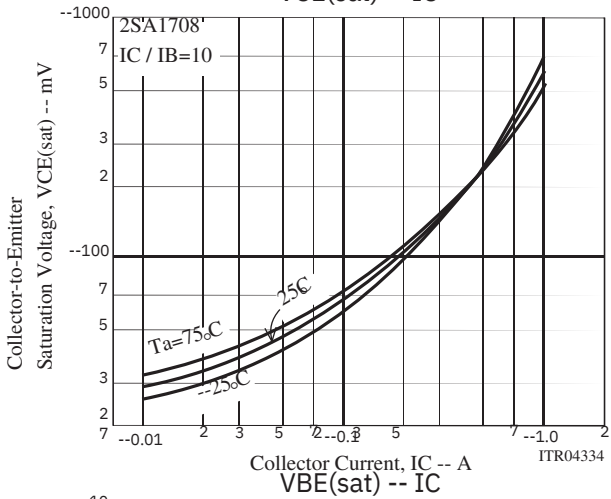
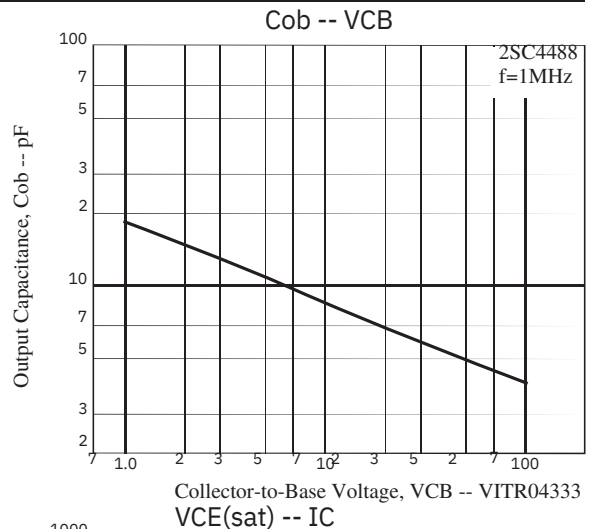
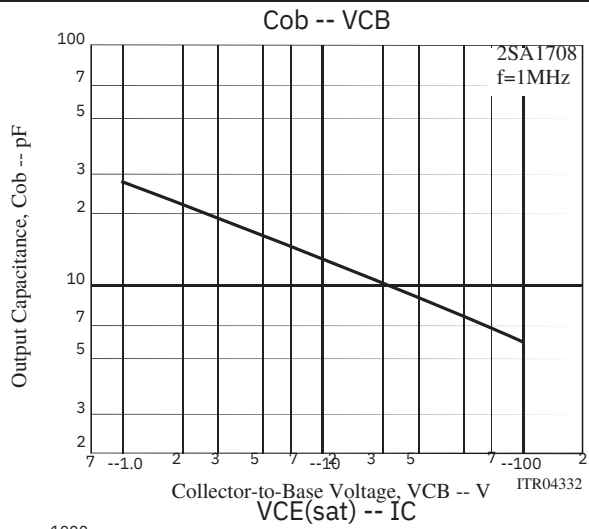
## Switching Time Test Circuit



2SA1708 / 2SC4488



# 2SA1708 / 2SC4488



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