



2SA1450/2SC3708

Low-Frequency Driver Applications

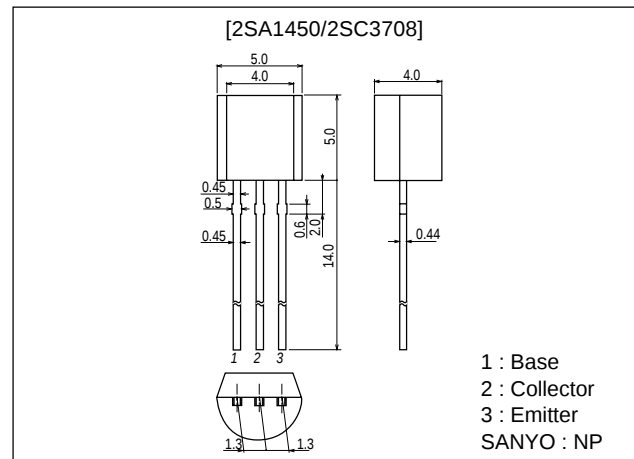
Features

- Adoption of FBET process.
- AF amp, AF power amp.
- High breakdown voltage : $V_{CEO} > 80V$

Package Dimensions

unit:mm

2003B



() : 2SA1450

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-)100	V
Collector-to-Emitter Voltage	V_{CEO}		(-)80	V
Emitter-to-Base Voltage	V_{EBO}		(-)5	V
Collector Current	I_C		(-)500	mA
Collector Current (Pulse)	I_{CP}		(-)800	mA
Base Current	I_B		(-)100	mA
Collector Dissipation	P_C		600	mW
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Electrical Characteristics at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)60V, I_E=0$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4V, I_C=0$			(-)0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=(-)5V, I_C=(-)50mA$	100*		400*	
	h_{FE2}	$V_{CE}=(-)5V, I_C=(-)400mA$	60			

* : 2SA1450/2SC3708 are classified by 50mA h_{FE} as follows :

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Rank	R	S	T
h_{FE}	100 to 200	140 to 280	200 to 400

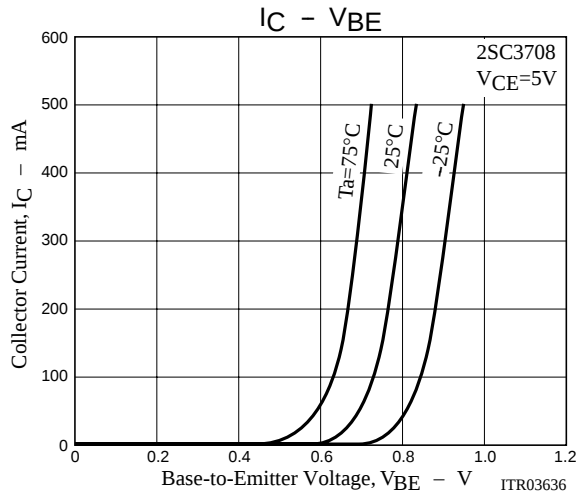
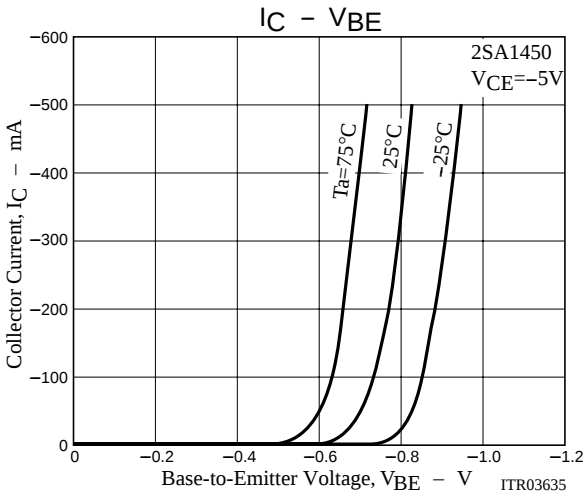
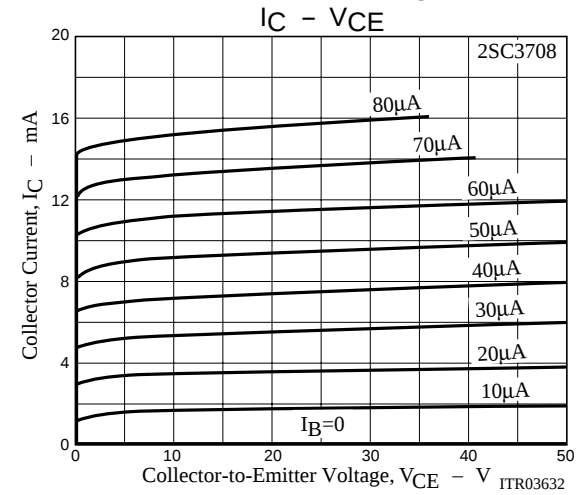
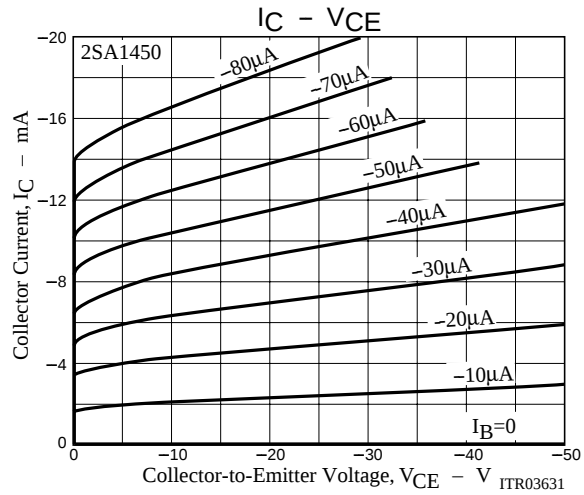
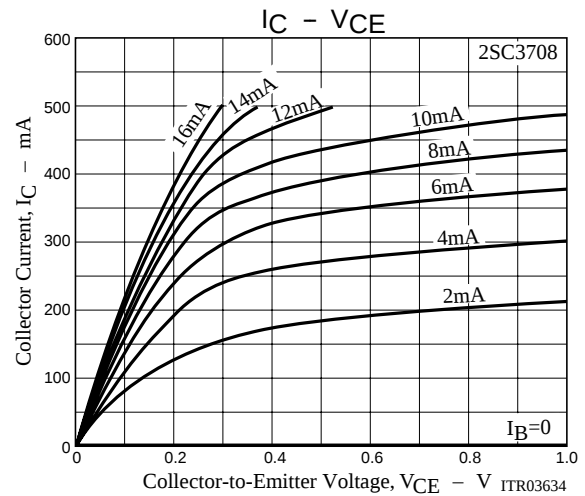
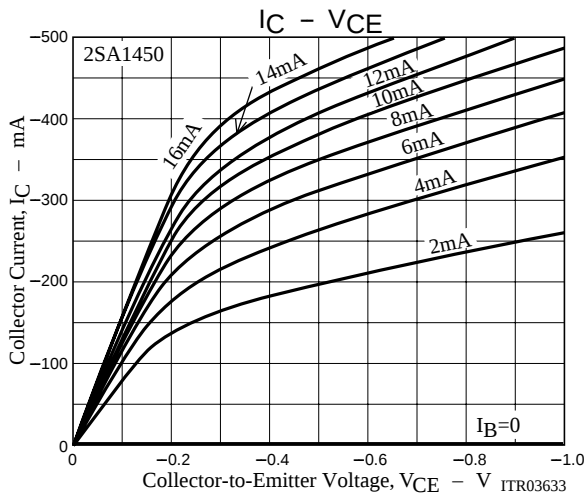
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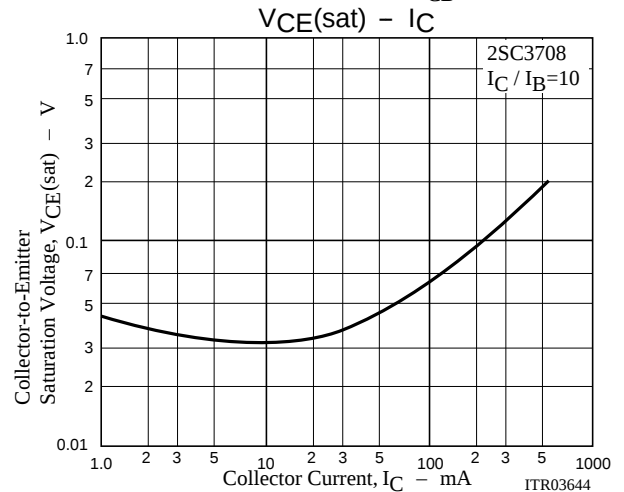
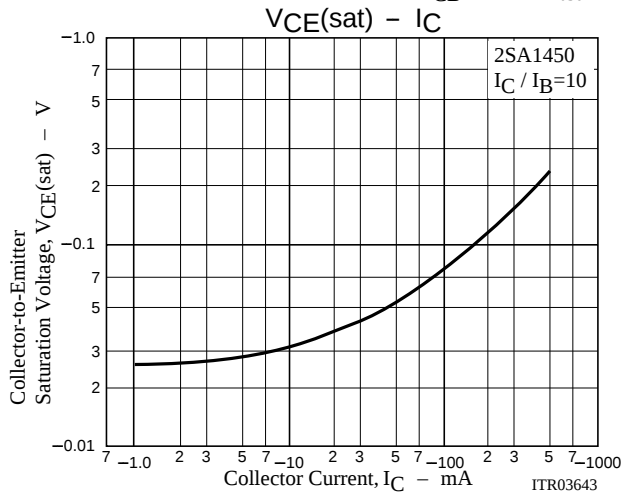
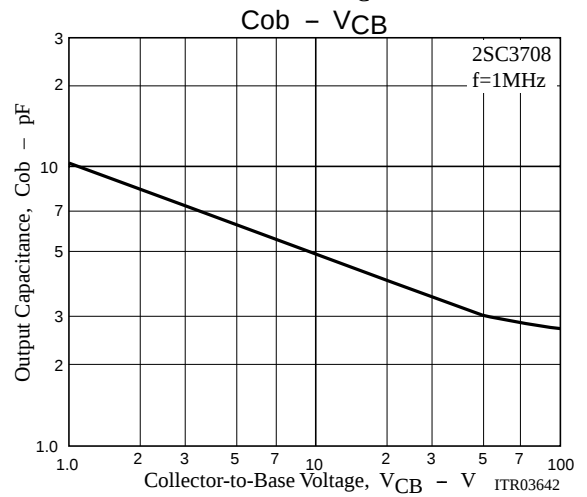
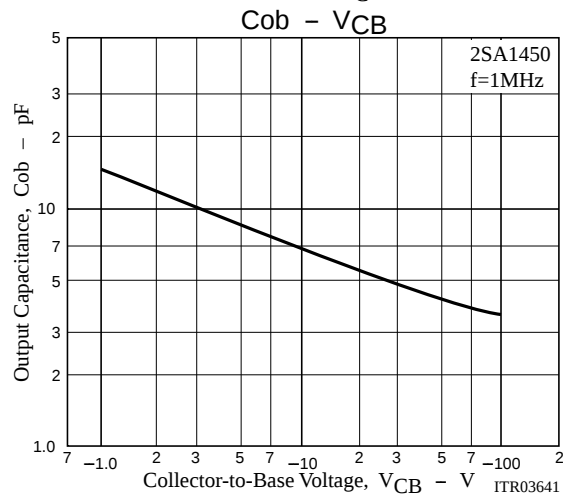
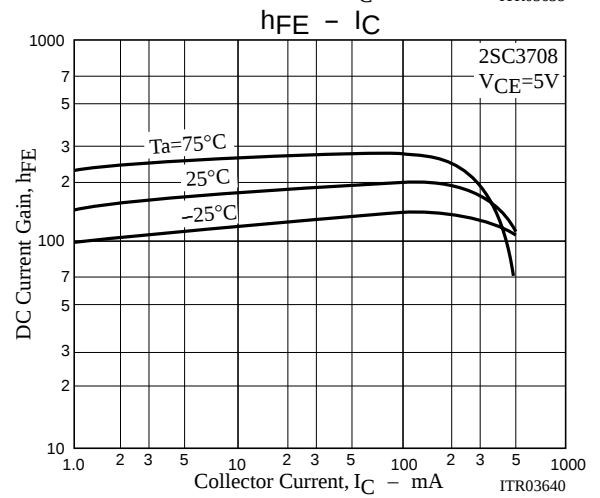
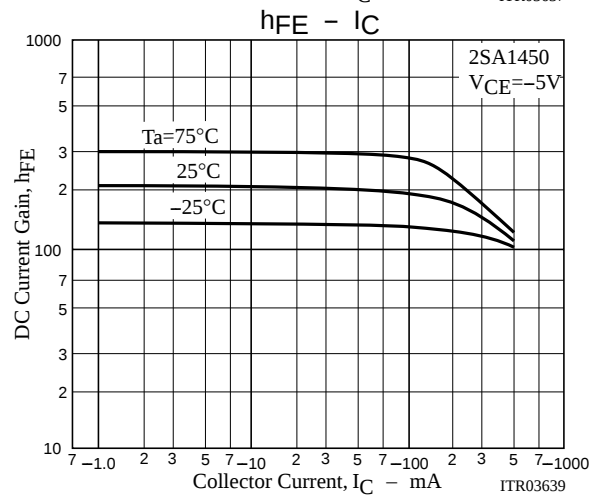
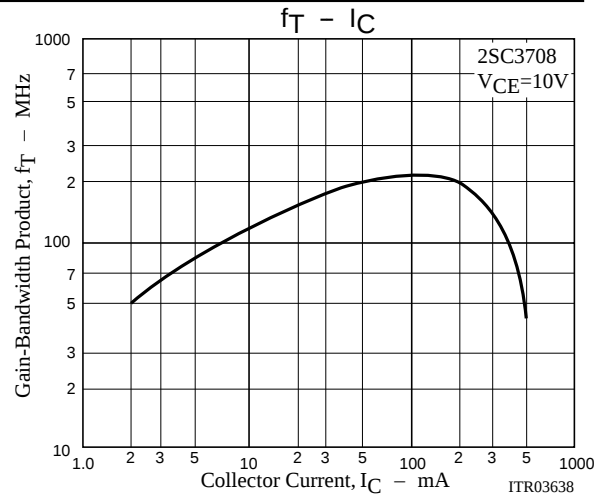
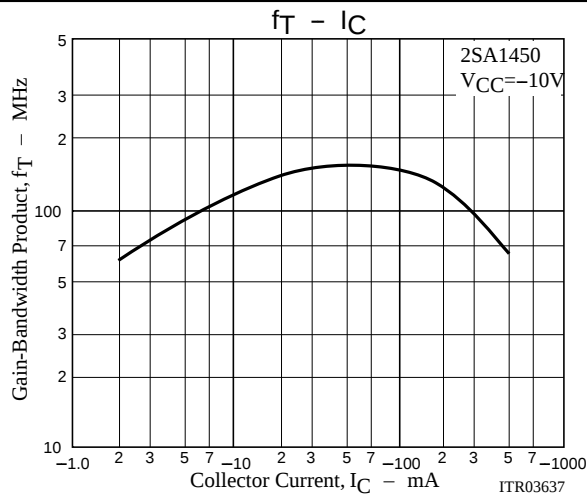
2SA1450/2SC3708

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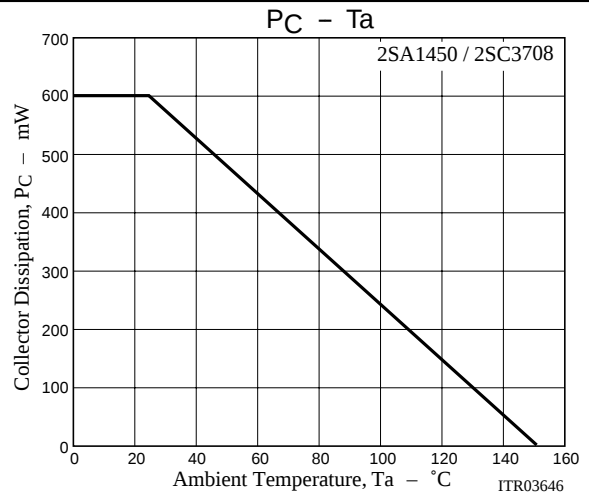
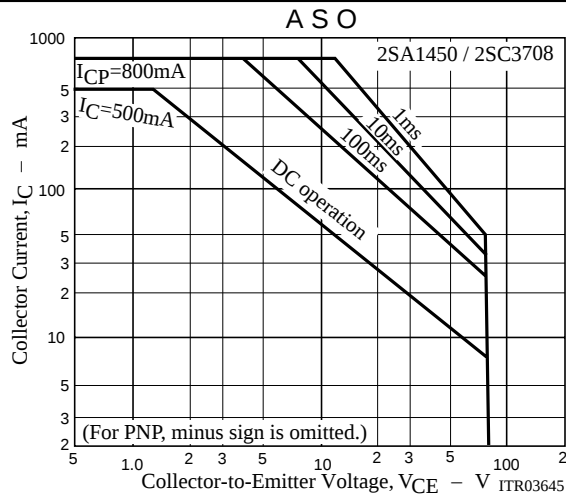
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10V, I_C=(-)10mA$		120		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(7)5		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)400mA, I_B=(-)40mA$		0.16		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)400mA, I_B=(-)40mA$		(-0.2)	(-0.5)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	-100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	-80			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	-5			V



2SA1450/2SC3708



2SA1450/2SC3708



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