

2SA1391/2SC3382



Low Noise AF Amp Applications

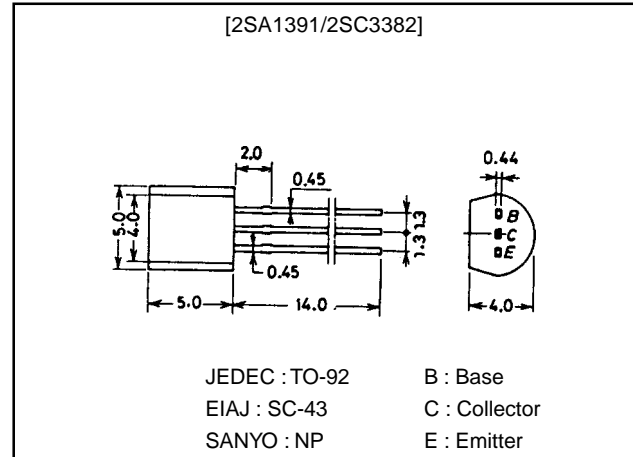
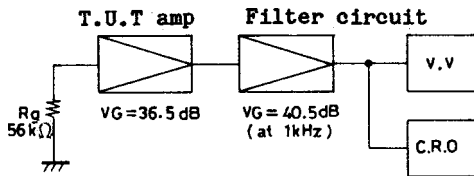
Features

- Adoption of FBET process.
- AF amp.
- Low-noise use.

Package Dimensions

unit:mm
2003A

Noise Test Circuit



() : 2SA1391

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-)60	V
Collector-to-Emitter Voltage	V_{CEO}		(-)50	V
Emitter-to-Base Voltage	V_{EBO}		(-)6	V
Collector Current	I_C		(-)200	mA
Collector Current (Pulse)	I_{CP}		(-)400	mA
Collector Dissipation	P_C		400	mW
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)40V, I_E = 0$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)5V, I_C = 0$			(-)0.1	μA
DC Current Gain	h_{FE1}	$V_{CE} = (-)6V, I_C = (-)1mA$	100*		560*	
	h_{FE2}	$V_{CE} = (-)6V, I_C = (-)0.1mA$	70			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)6V, I_C = (-)10mA$		250		MHz
				(200)		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)100mA, I_B = (-)10mA$			(-)0.3	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)100mA, I_B = (-)10mA$			(-)1.0	V
Output Capacitance	C_{ob}	$V_{CB} = (-)6V, f = 1MHz$		2.7		pF
				(3.7)		pF
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10μA, I_E = 0$	(-)60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = ∞$	(-)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10μA, I_C = 0$	(-)6			V
Noise Level	$V_{NO(ave)}$	$V_{CC} = (-)30V, I_C = (-)1mA, R_g = 56kΩ, V_G = 77dB/1kHz$			40	mV
					(35)	mV
Noise Peak Level	$V_{NO(peak)}$	$V_{CC} = (-)30V, I_C = (-)1mA, R_g = 56kΩ, V_G = 77dB/1kHz$			280	mV
					(200)	mV

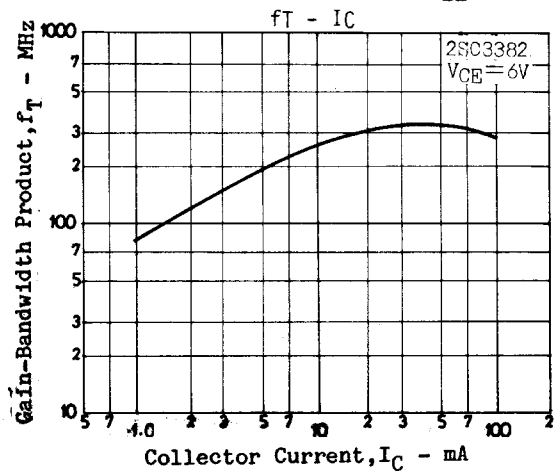
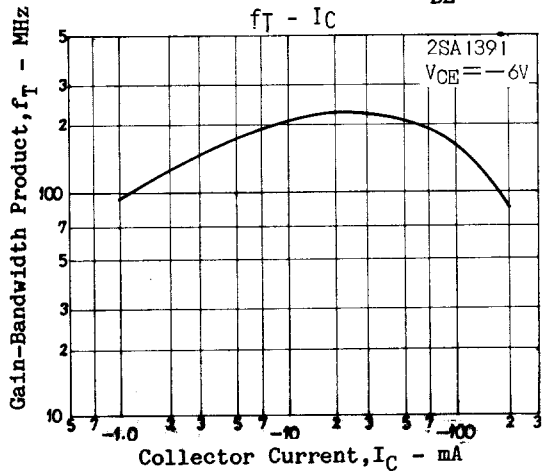
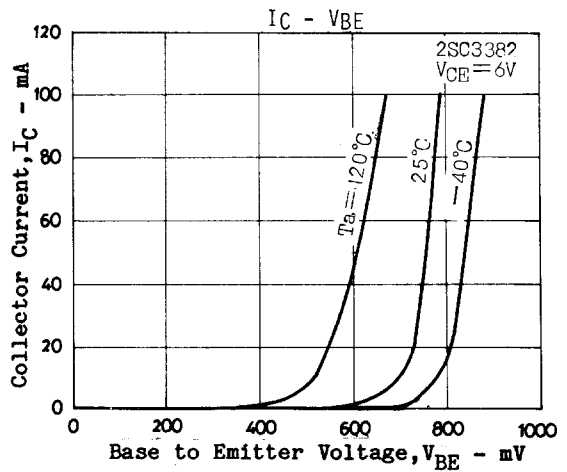
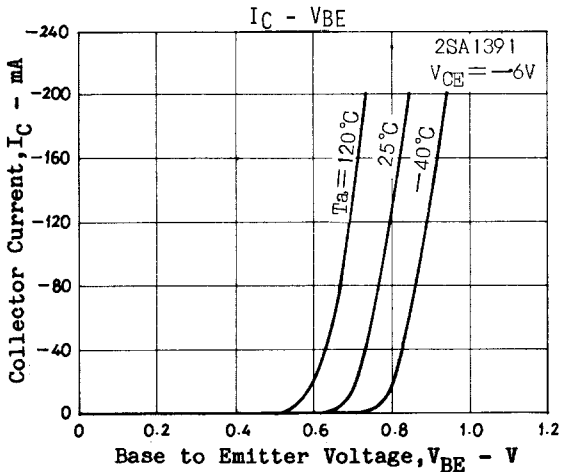
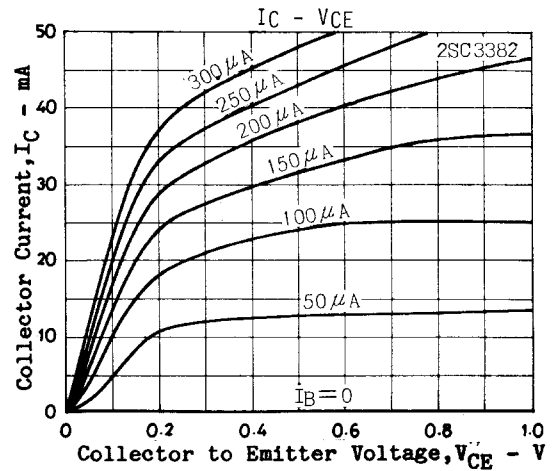
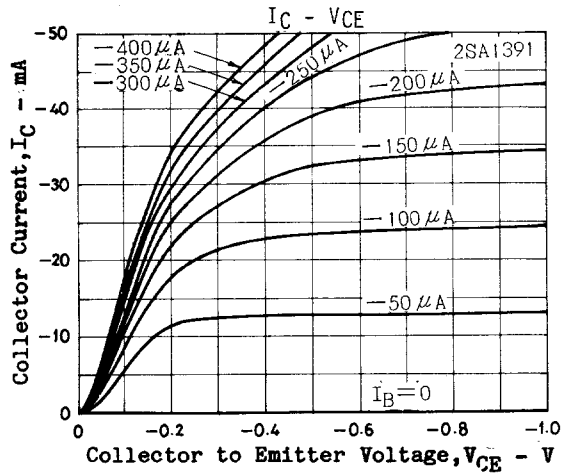
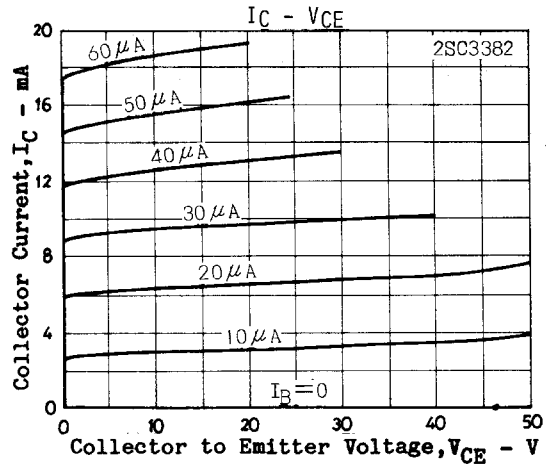
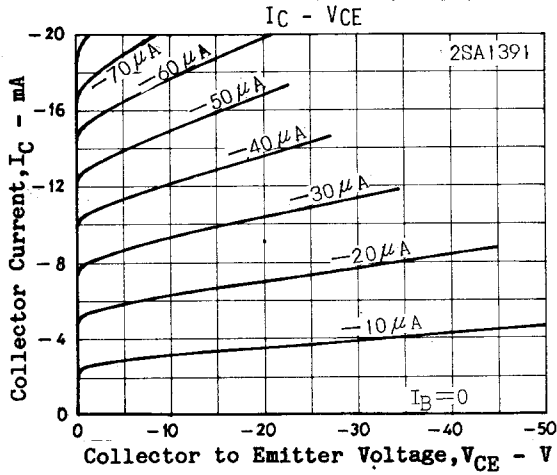
* : 2SA1391/2SC3382 are classified by 1mA h_{FE} as follows :

100	R	200	140	S	280	200	T	400	280	U	560
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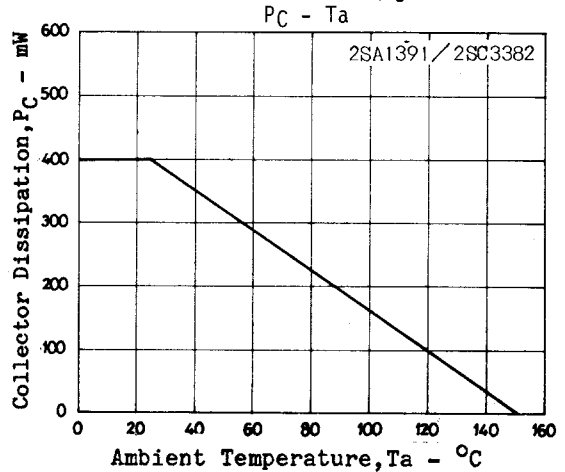
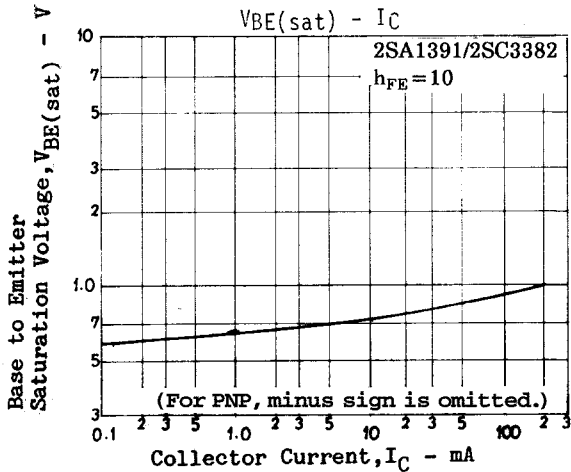
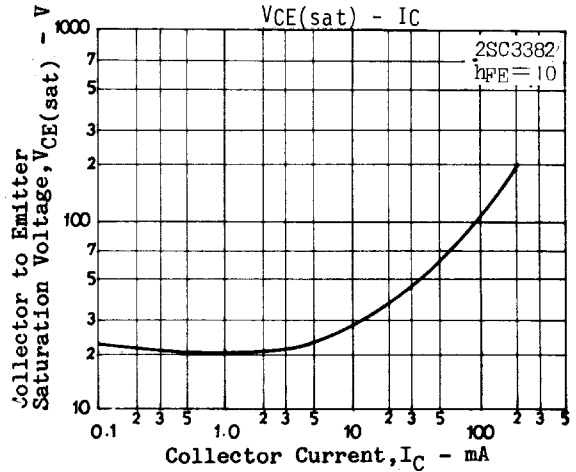
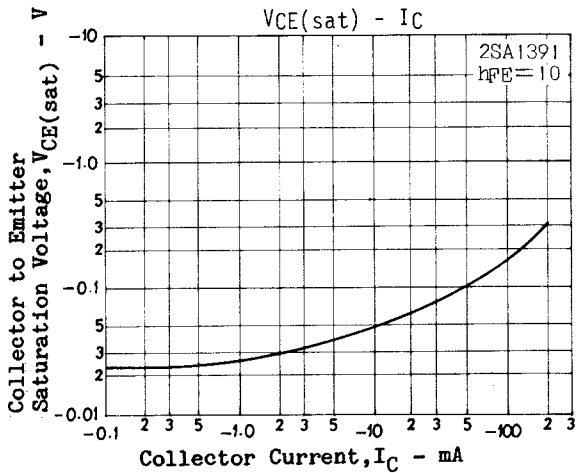
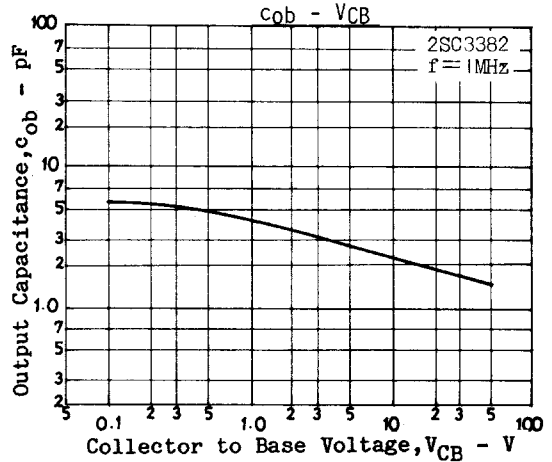
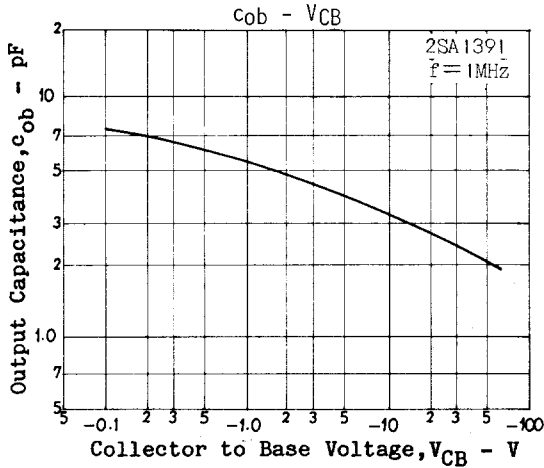
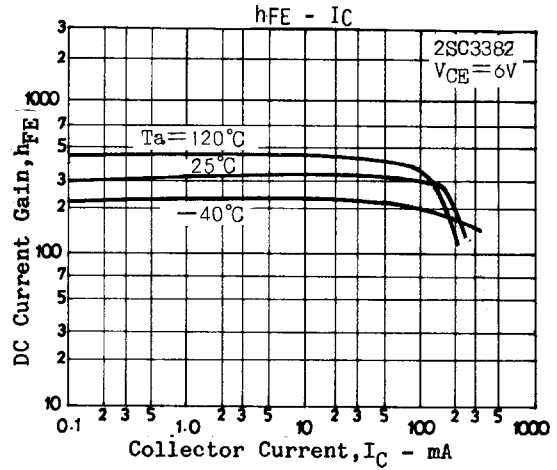
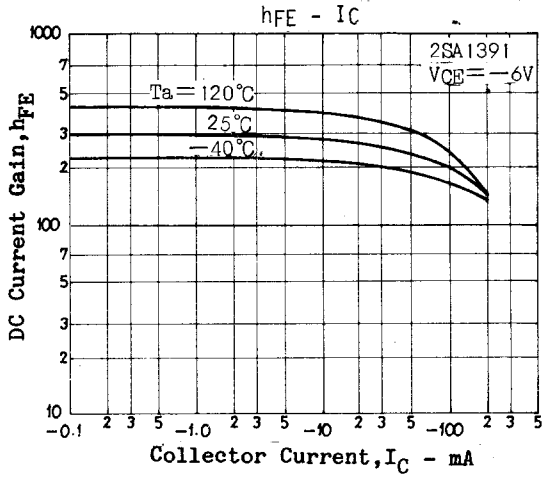
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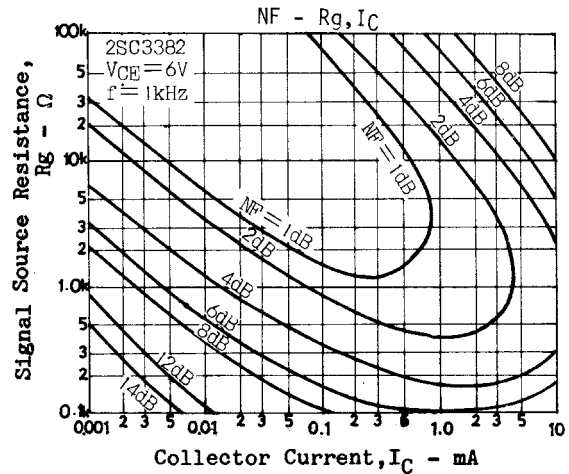
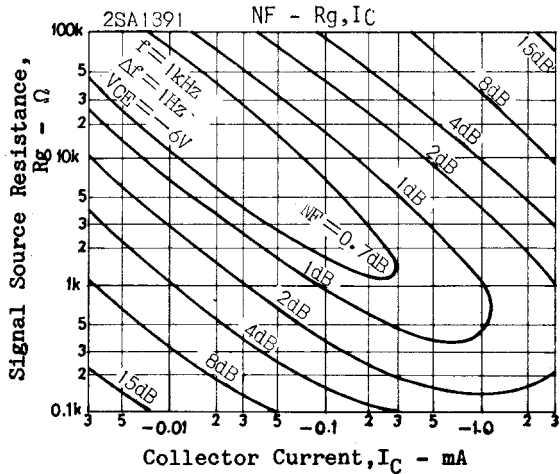
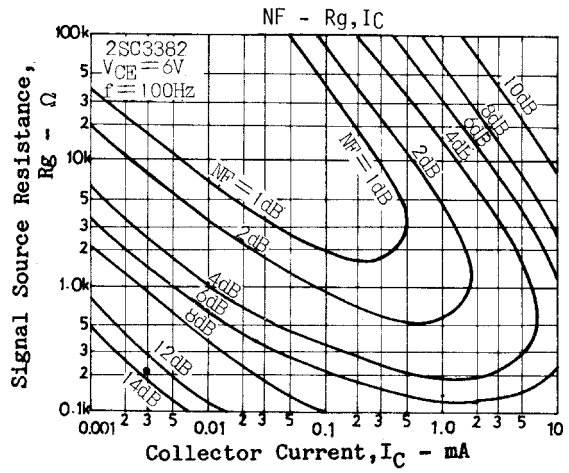
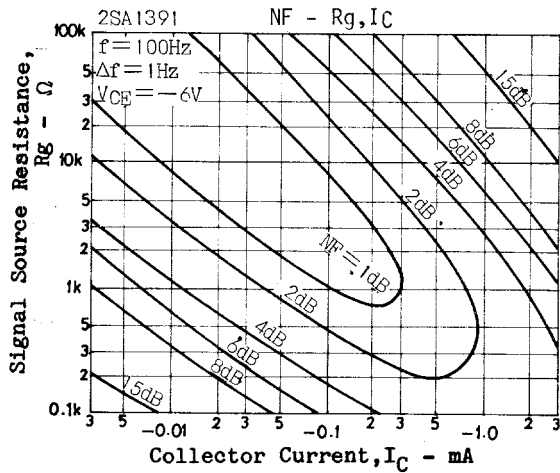
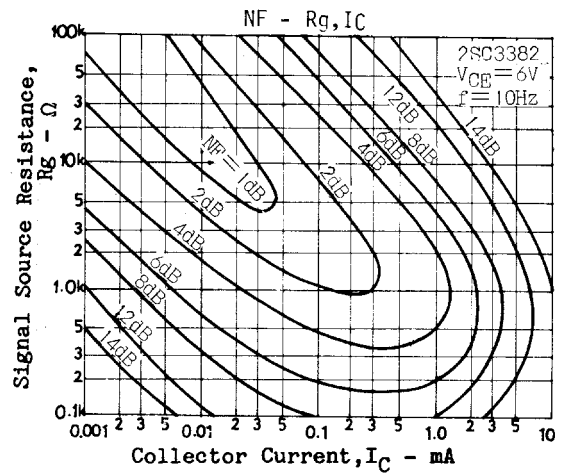
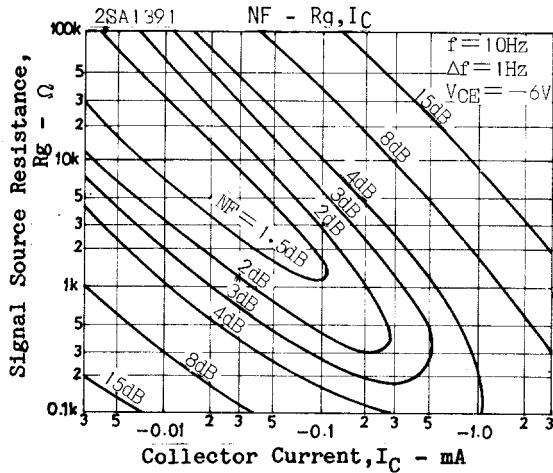
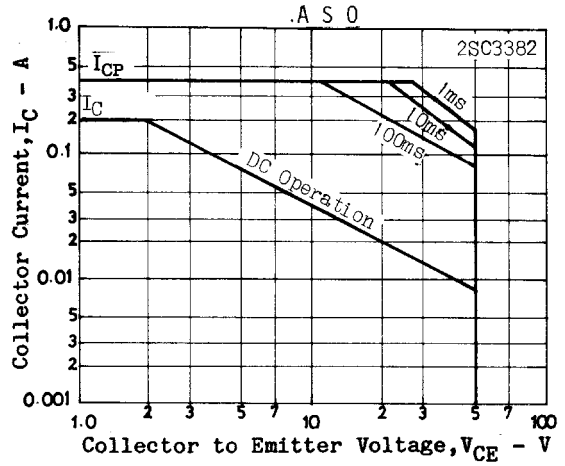
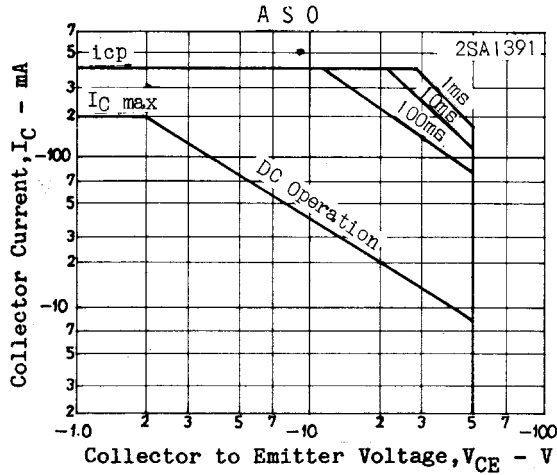
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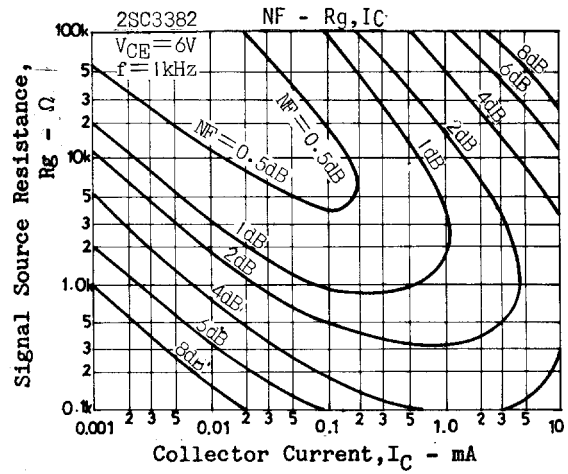
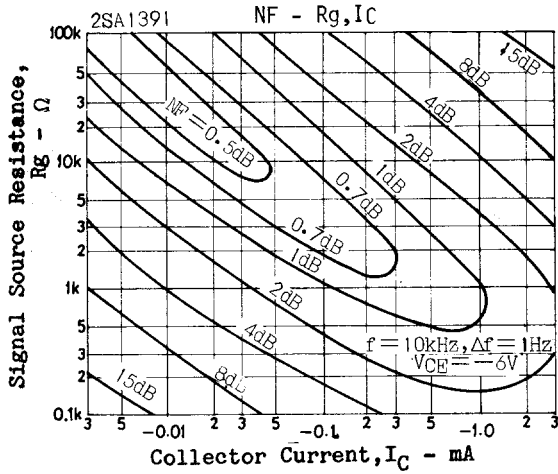
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