



2SA1766

High h_{FE} , Low-Frequency General-Purpose Amplifier Applications

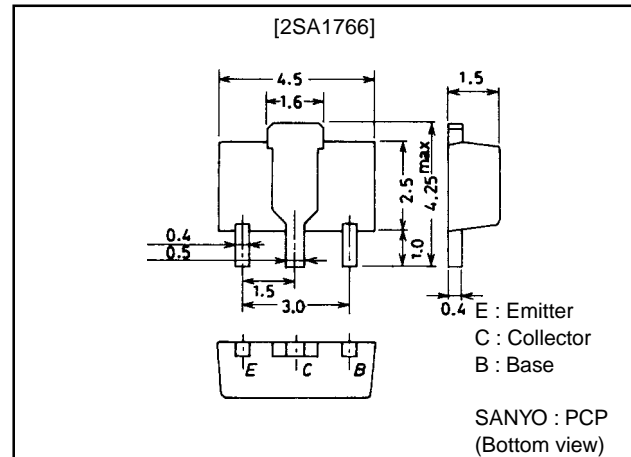
Features

- Adoption of FBET, MBIT processes.
- High DC current gain ($h_{FE}=500$ to 1200).
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- High V_{EBO} .

Package Dimensions

unit:mm

2038



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-30	V
Collector-to-Emitter Voltage	V_{CEO}		-25	V
Emitter-to-Base Voltage	V_{EBO}		-15	V
Collector Current	I_C		-300	mA
Collector Current (Pulse)	I_{CP}		-500	mA
Base Current	I_B		-60	mA
Collector Dissipation	P_C	Mounted on ceramic board (250mm ² ×0.8mm)	1.3	W
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-20\text{V}, I_E=0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-10\text{V}, I_C=0$			-0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=-5\text{V}, I_C=-10\text{mA}$	500	800	1200	
	h_{FE2}	$V_{CE}=-5\text{V}, I_C=-200\text{mA}$	200			
Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}, I_C=-10\text{mA}$		100		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, f=1\text{MHz}$		12		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-200\text{mA}, I_B=-4\text{mA}$	-0.12		-0.50	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-200\text{A}, I_B=-4\text{mA}$	-0.77		-1.10	V

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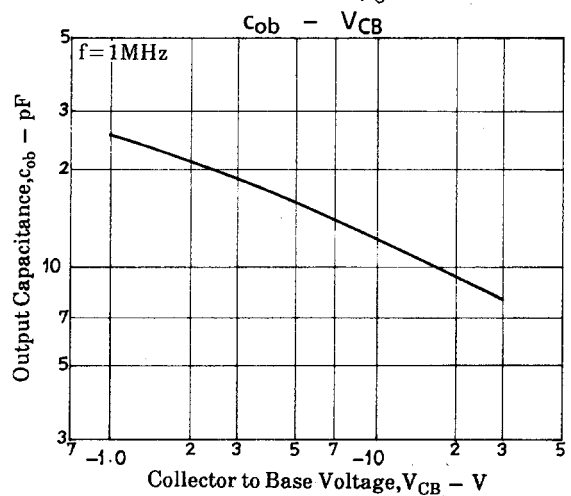
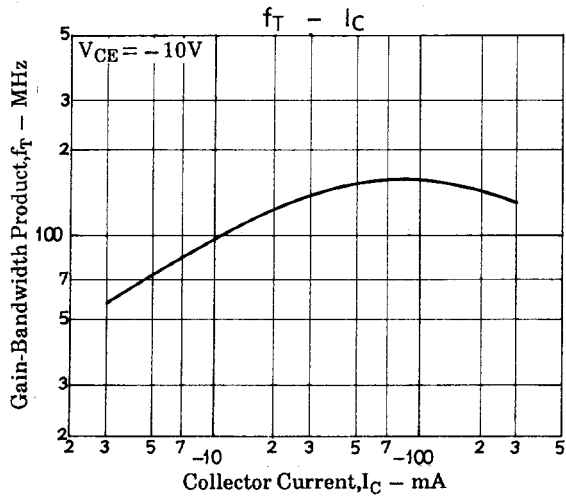
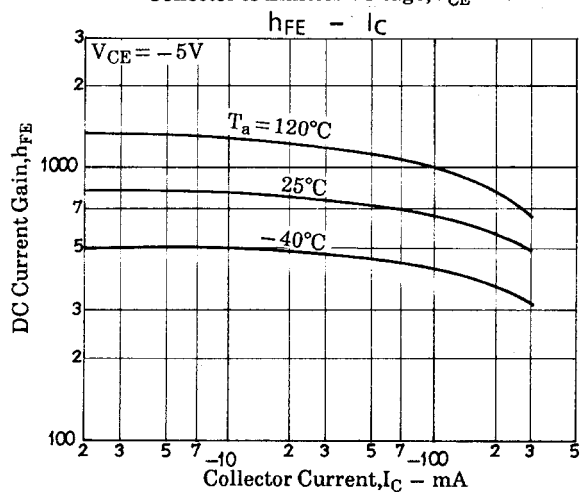
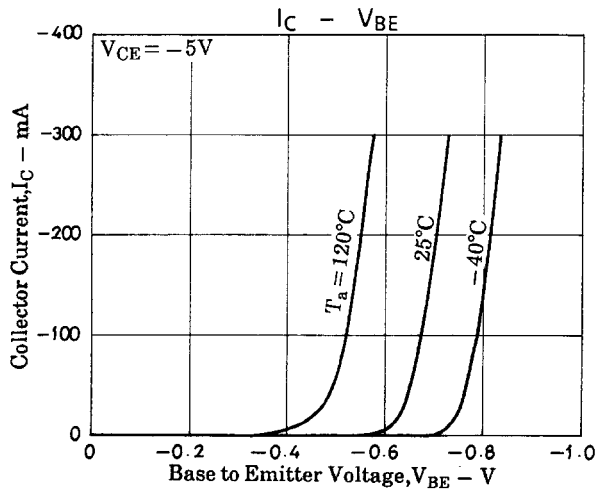
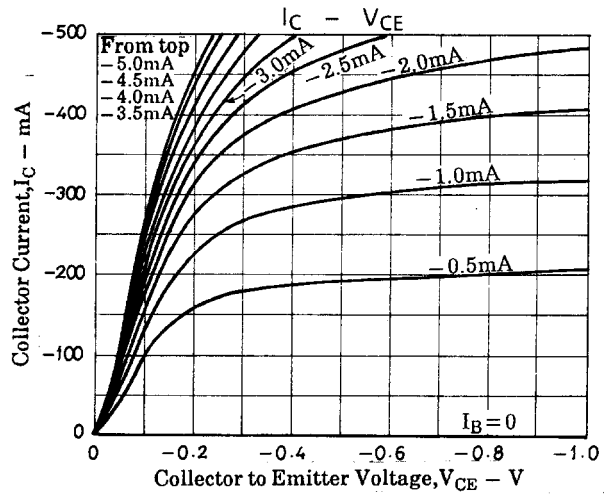
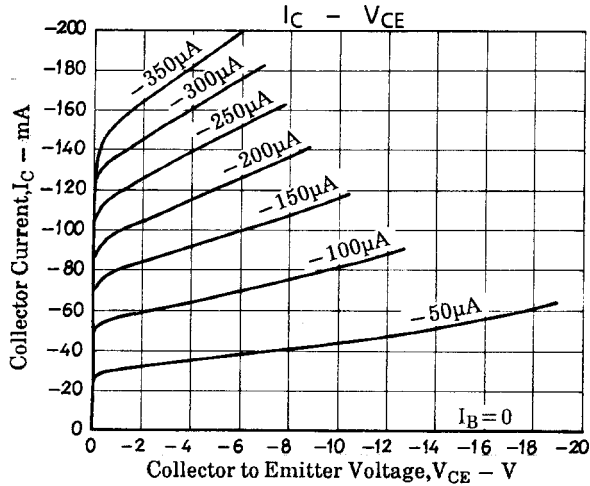
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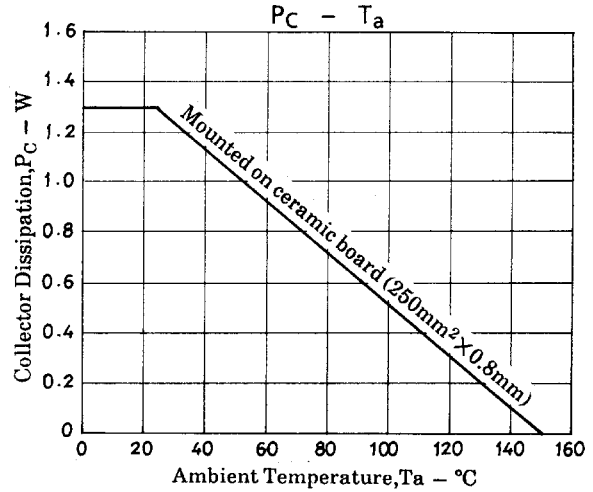
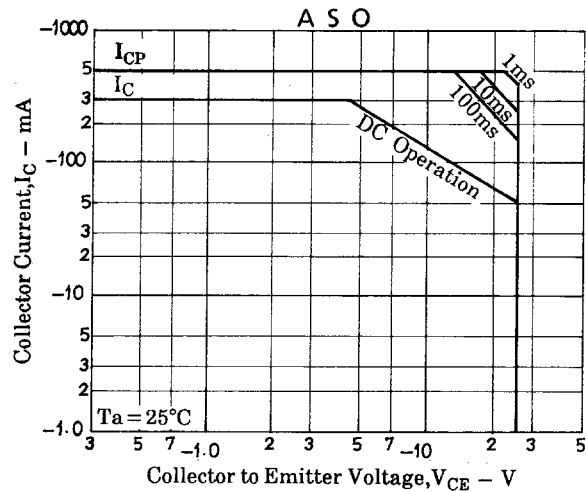
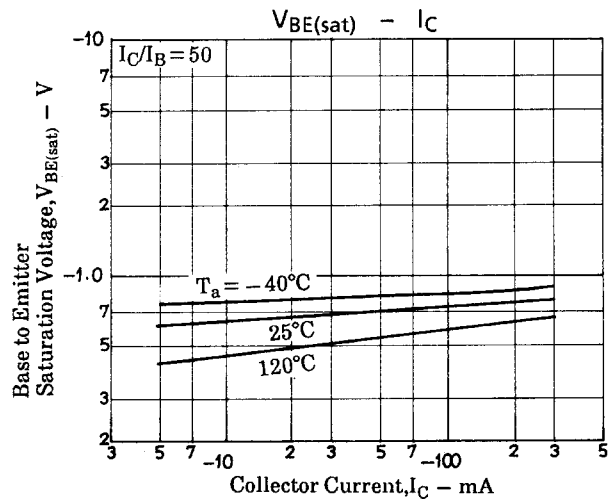
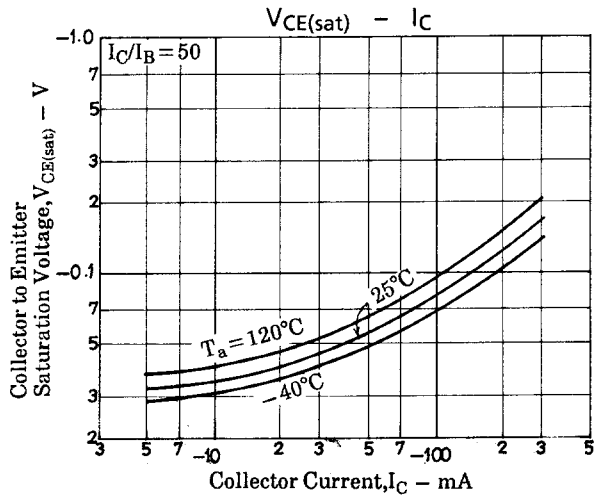
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-25			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-15			V

Marking : AL



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