

**2SA1813**

Low-Frequency General-Purpose Amplifier Driver, Muting Circuit Applications

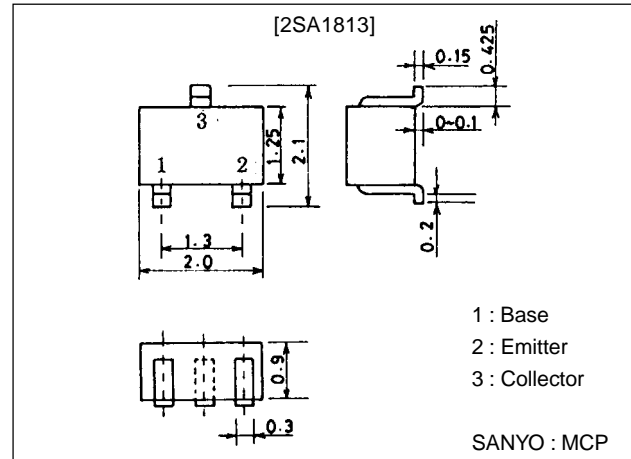
Features

- Very small-sized package permitting 2SA1813-applied sets to be made smaller and slimmer.
- Adoption of FBET process.
- High DC current gain ($h_{FE}=500$ to 1200).
- Low collector-to-emitter saturation voltage ($V_{CE(sat)} \leq 0.3V$).
- High V_{EBO} ($V_{EBO} \geq 15V$).

Package Dimensions

unit:mm

2059A



Specifications

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

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		-150	mA
Collector Current (Pulse)	I_{CP}		-300	mA
Base Current	I_B		-30	mA
Collector Dissipation	P_C	Mounted on board	200	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}	$V_{CB}=-20V, I_E=0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-10V, I_C=0$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=-5V, I_C=-1mA$	500	800	1200	
Gain-Bandwidth Product	f_T	$V_{CE}=-10V, I_C=-10mA$		210		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		2.6		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-50mA, I_B=-1mA$	-0.15	-0.3		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-50mA, I_B=-1mA$	-0.78	-1.1		V

Marking : KS

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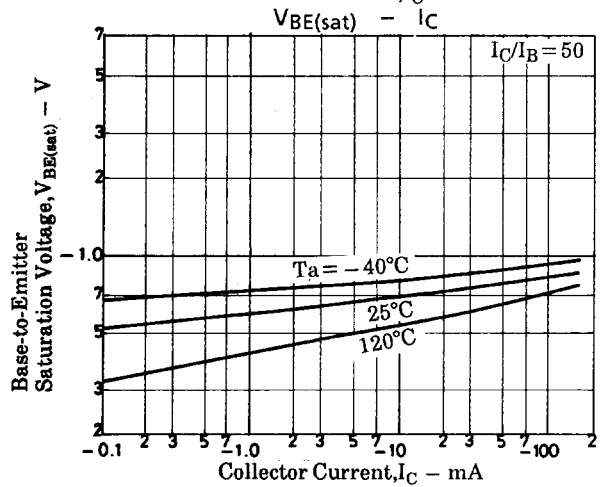
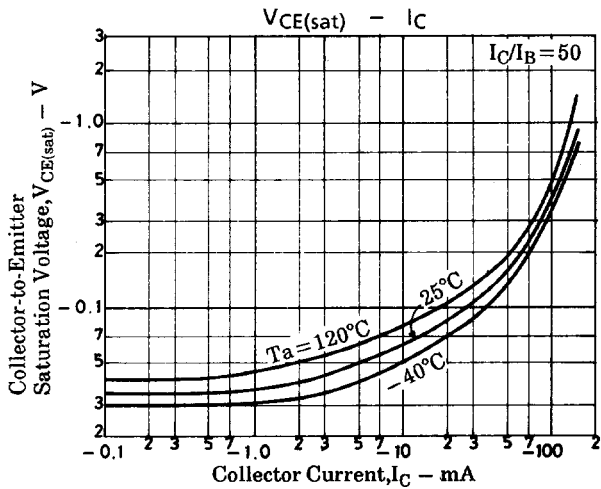
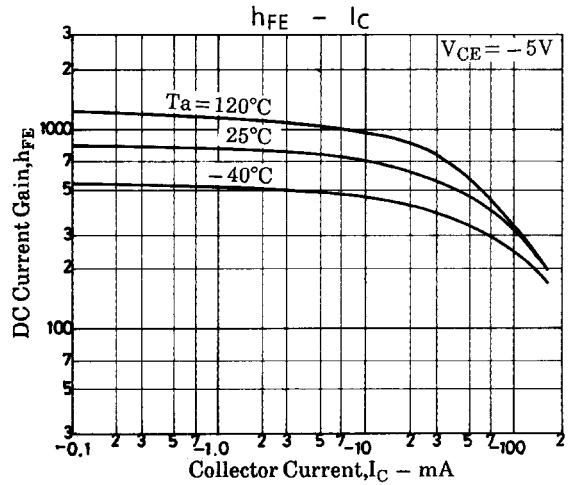
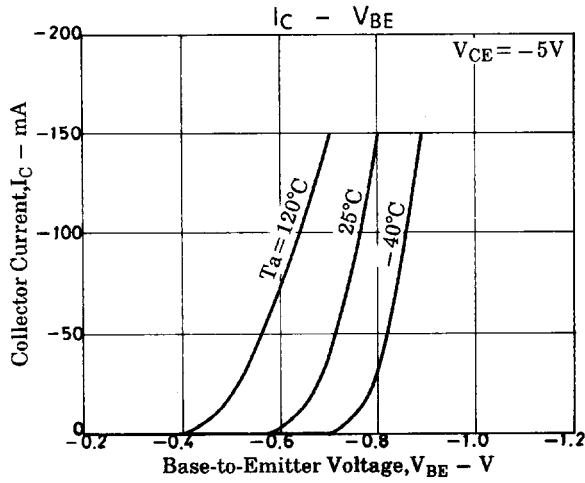
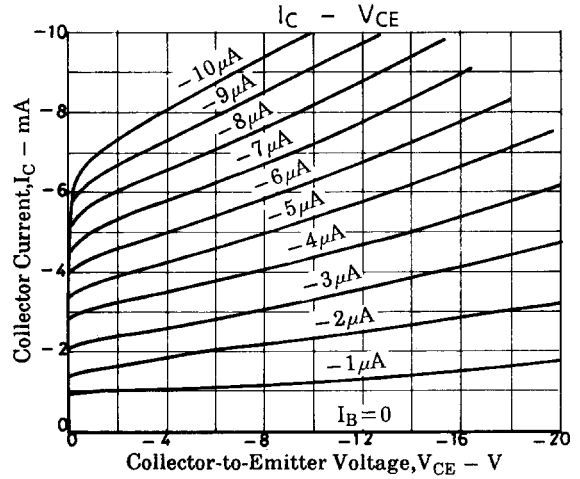
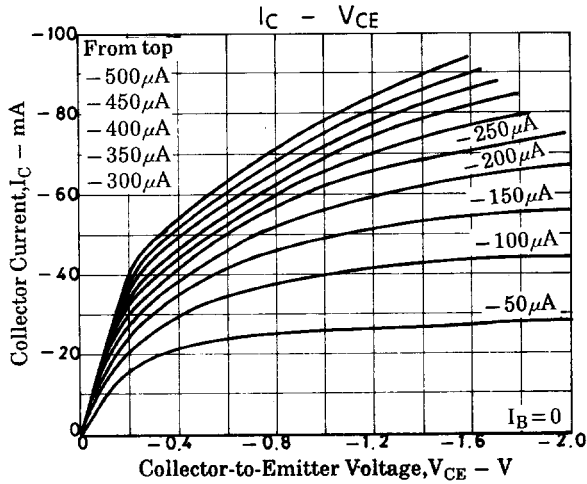
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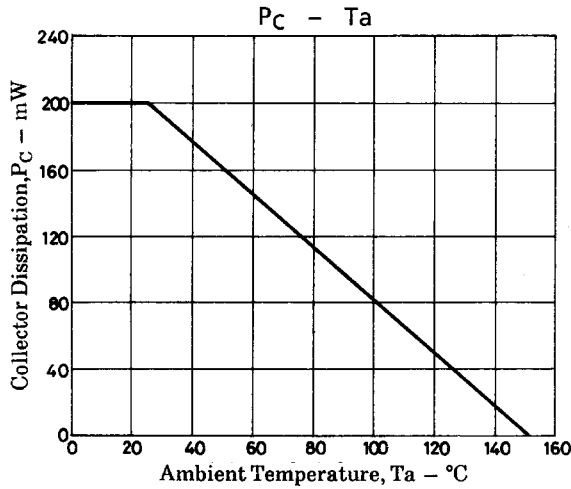
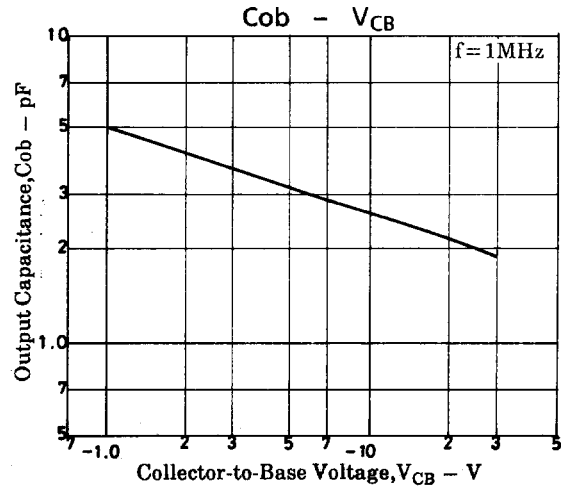
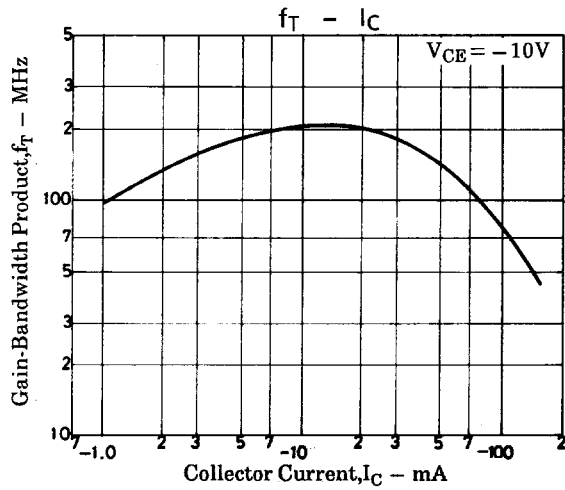
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2SA1813

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



2SA1813



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