

**2SA1813**

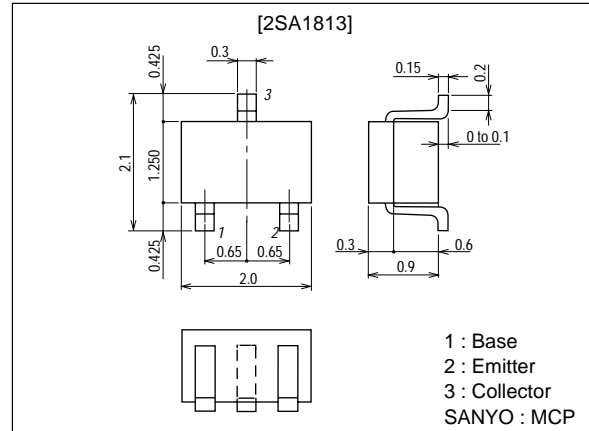
## Low-Frequency General-Purpose Amplifier Driver, Muting Circuit Applications

### Features

- Ultrasmall-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  
2059B



### 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	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-10V, I_C=0$			-0.1	$\mu A$
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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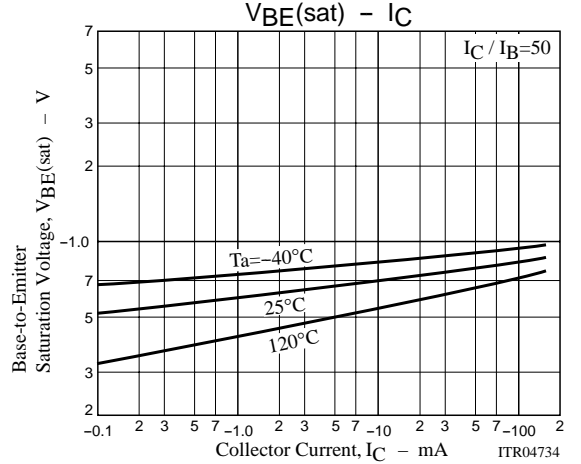
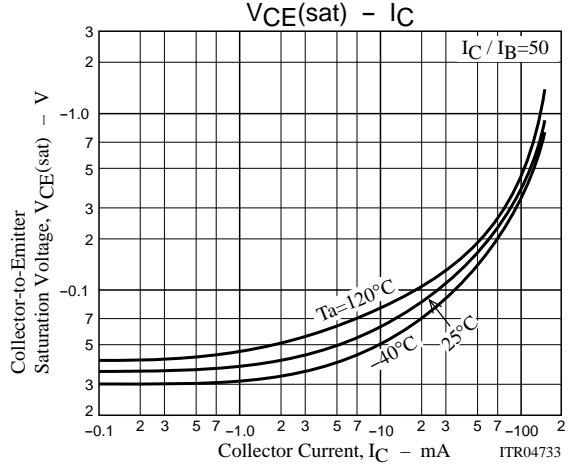
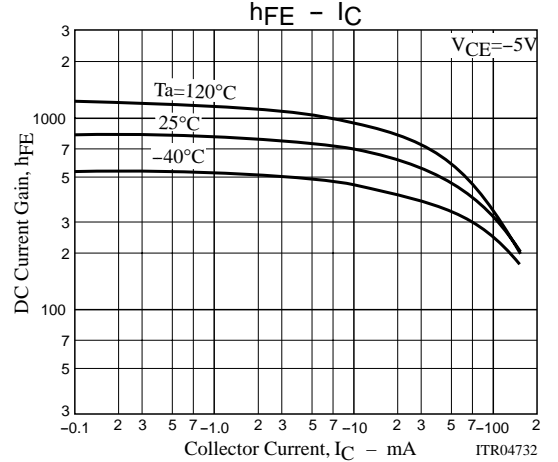
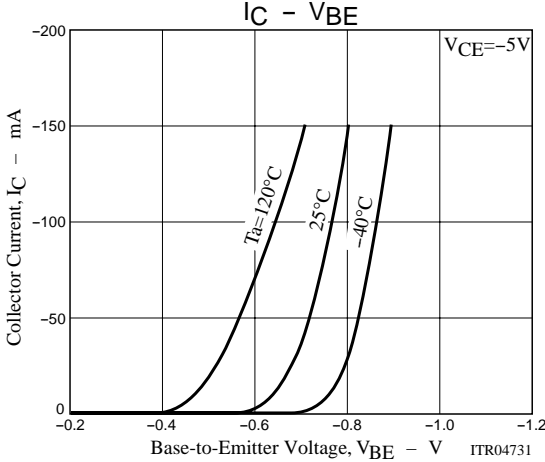
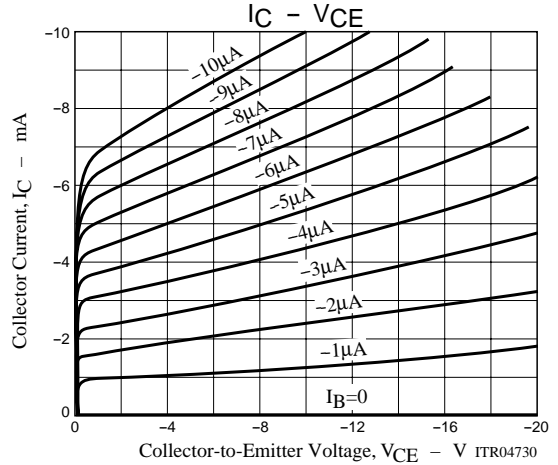
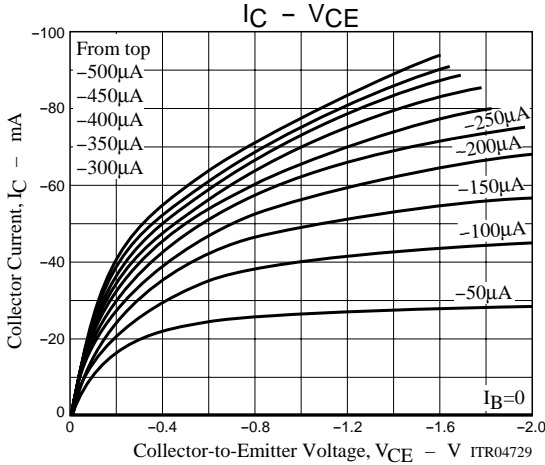
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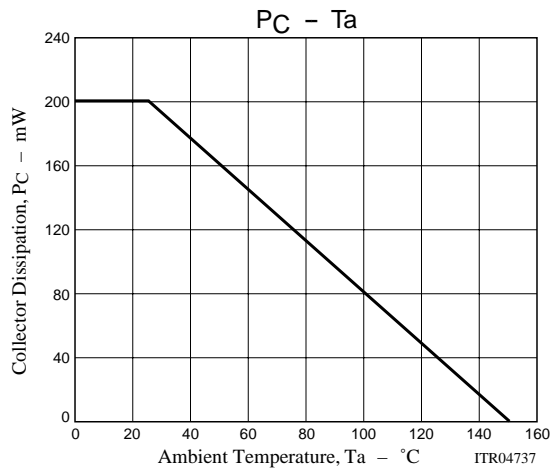
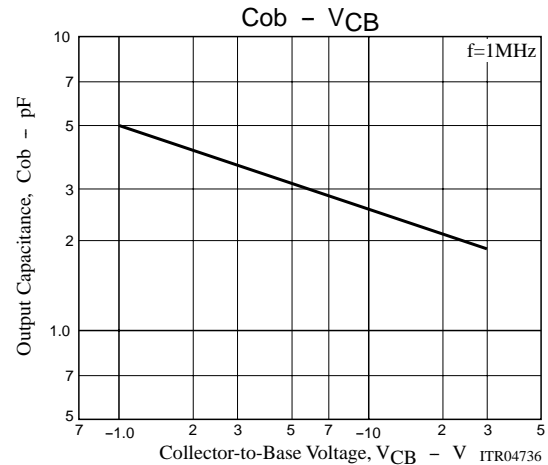
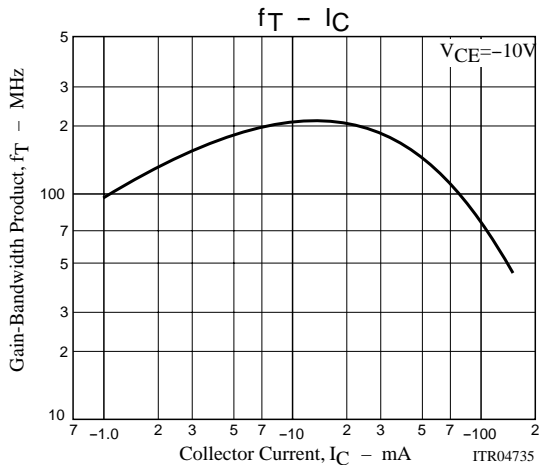
80103TN (KT)/91098HA (KT)/53094TH (KOTO) 8-7538, 8459 No.3972-1/3

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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





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