

**2SA1864**

## Muting Circuits, Driver Applications

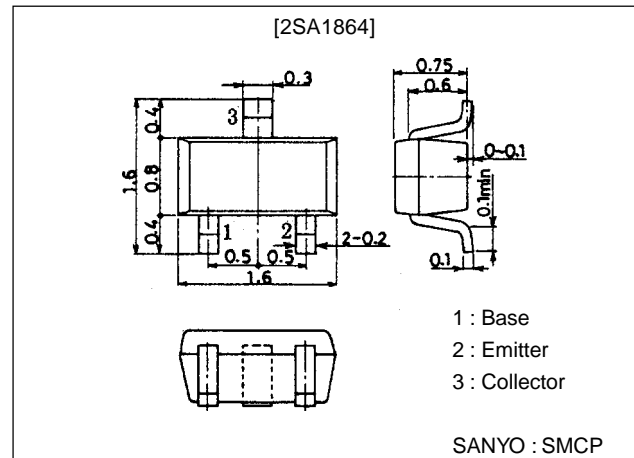
### Features

- On-chip bias resistors ( $R_1=4.7k\Omega$ ,  $R_2=4.7k\Omega$ ).
- Very small-sized package making 2SA1864-applied sets small and slim.
- High gain-bandwidth product  $f_T$ .

### Package Dimensions

unit:mm

2106A



### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		-15	V
Collector-to-Emitter Voltage	$V_{CEO}$		-15	V
Emitter-to-Base Voltage	$V_{EBO}$		-10	V
Input Voltage	$V_{IN}$		-14	V
Collector Current	$I_C$		-100	mA
Collector Current (Pulse)	$I_{CP}$		-200	mA
Base Current	$I_B$		-20	mA
Collector Dissipation	$P_C$		150	mW
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	$I_{CBO}$	$V_{CB}=-10\text{V}$ , $I_E=0$			-0.1	$\mu\text{A}$
Collector Cutoff Current	$I_{CEO}$	$V_{CB}=-10\text{V}$ , $I_E=0$			-0.5	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-5\text{V}$ , $I_C=0$	-410	-532	-760	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=-2\text{V}$ , $I_C=-20\text{mA}$	50			
Gain-Bandwidth Product	$f_T^*$	$V_{CE}=-5\text{V}$ , $I_C=-10\text{mA}$		600		MHz
Output Capacitance	$C_{ob}^*$	$V_{CB}=-10\text{V}$ , $f=1\text{MHz}$		0.9		pF

\* : Characteristic of tje constituent transistor.

Marking : AA

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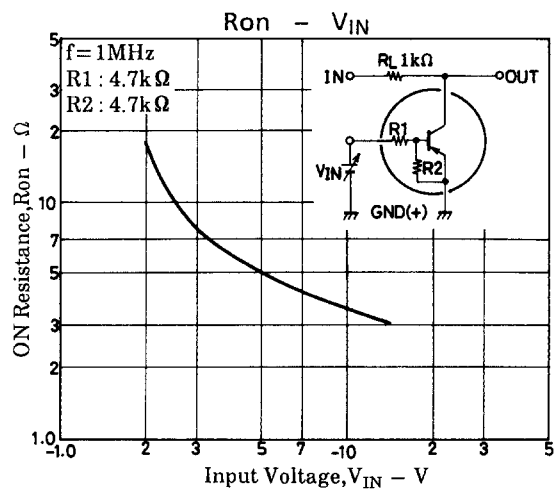
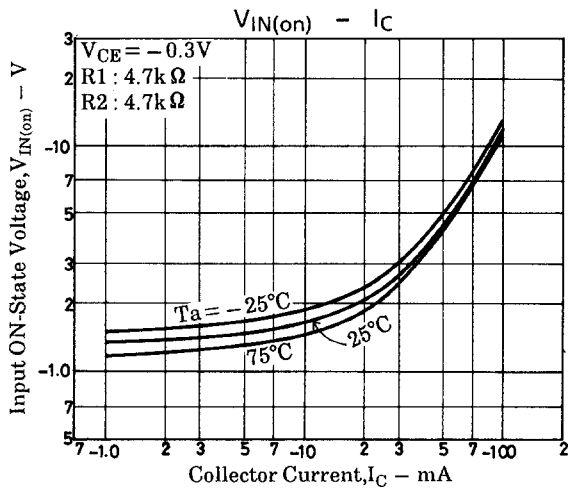
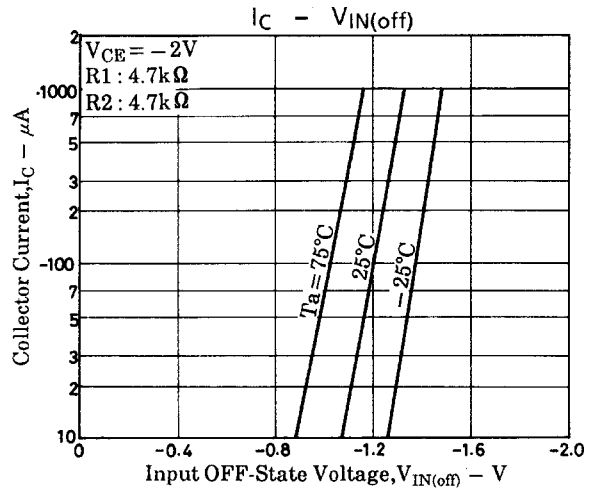
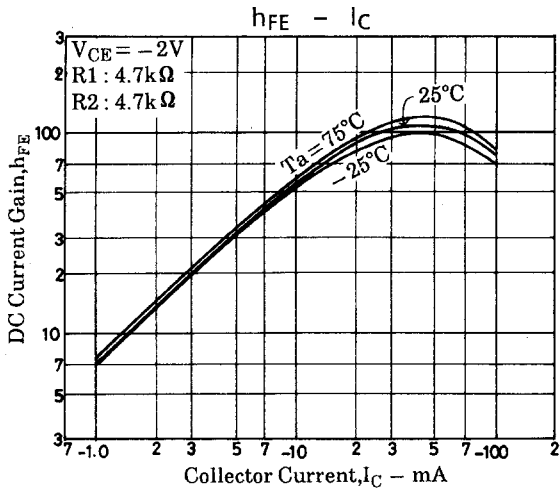
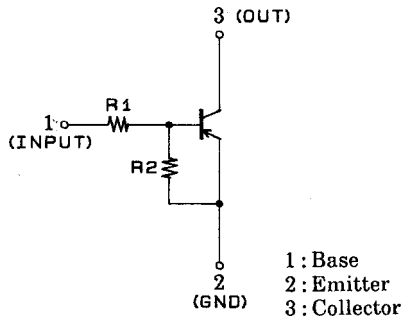
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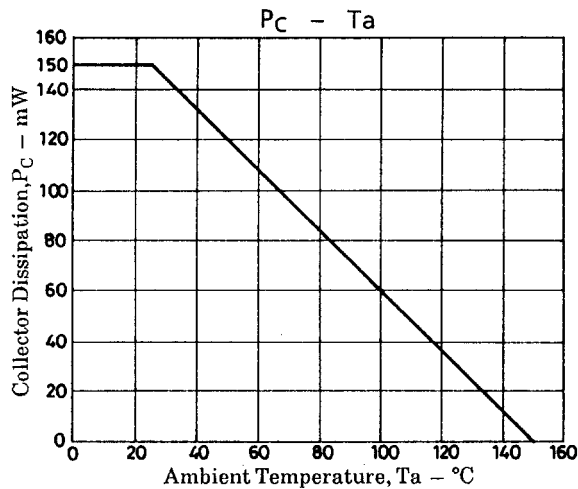
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# 2SA1864

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -5\text{mA}$ , $I_B = -0.5\text{mA}$		-30	-100	mV
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}$ , $I_E = 0$	-15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}$ , $R_{BE} = \infty$	-15			V
Input OFF-State Voltage	$V_{IN(off)}$	$V_{CE} = -2\text{V}$ , $I_C = -100\mu\text{A}$	-0.8	-1.2	-1.5	V
Input ON-State Voltage	$V_{IN(on)}$	$V_{CE} = -0.3\text{V}$ , $I_C = -20\text{mA}$	-1.0	-2.1	-4.0	V
Input Resistance	R1		3.3	4.7	6.1	k $\Omega$
Resistance Ratio	R1/R2		0.9	1.0	1.1	
ON Resistance	$R_{on}$	$V_{IN} = -5\text{V}$ , $f = 1\text{MHz}$		5.0		$\Omega$

## Electrical Connection





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