Peripheral ICs for Portable CD player

Muting IC for portable CD players BA3124F

The BA3124F is an IC developed for line output muting in portable CD players, and uses control pin switching to achieve line muting and to eliminate the dull thump that occurs when the power is turned on or off.

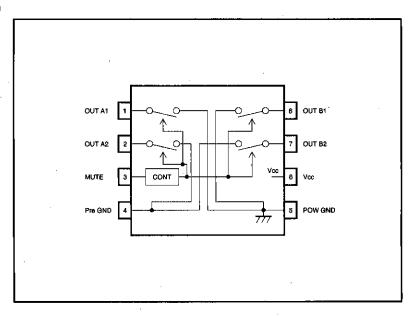
Applications

Portable CD players, CD-ROM drives and other devices with line output.

Futures

- 1) Mute attenuation. (63dB)
- 2) ON and OFF control terminals.

Block diagram



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Power supply voltage	Vcc	9.0	٧	
Power dissipation	Pd	450*	mW	
Operating temperature	Topr	− 15~50	Ç	
Storage temperature	Tstg	−55~125	°C	

^{*} Reduced by 4.5 mW for each increase In Ta of 1°C over 25°C.

Recommended operating conditions

Parameter	Symbol	Limits	Unit	
Power supply voltage	Vcc	1.8~7.0	V.	

●Electrical characteristics (Unless otherwise noted, Ta=25°C, Vcc=3.0V, f=1kHz)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Mute attenuation	ATT	53	63	_	dB	V _{IN} =1Vrms, 120Ω+100Ω 2 stage
Mute-on Quiescent current	lo (ON)	2.20	3.15	4.10	mA	V _M =1.8V
Mute-off Quiescent current	lo (OFF)	_	0	6	μΑ	V _M =0.4V
Mute-on control voltage	V _M (ON)	1.8	_	_	V	-
Mute-off control voltage	Vm (OFF)	_		0.4	V	_
Mute control terminal current	lм	130	160	190	μΑ	V _M =3V
Mute-off leakage current	l _L	_	0	6	μA	Vo=±1.5V, VM=0.4V

ONot designed for radiation resistance.

Measurement circuit

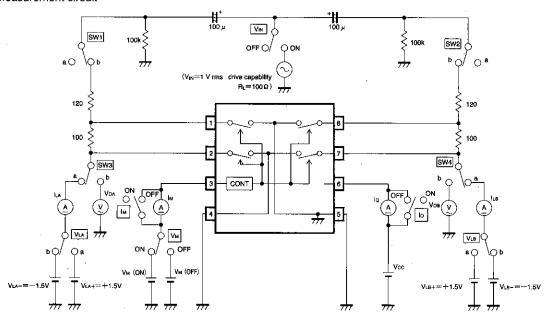
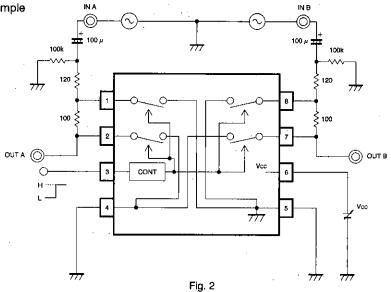


Fig. 1

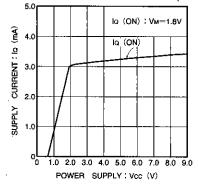
Measurement circuit switch table

S W Parameter	SW1 SW2	SW3 SW4	Vin	la	Vм	Ім	Vla Vlb	Monitor pin and equation
ATT	b	b	ON	OFF	ON	OFF	_	Voa, Vob. ATT=-20 log Voa (Vob) / Vin
Ia (ON)	ţ	1	OFF	ON	ţ	ţ		la
la (OFF)	<u> </u>	Ţ	Ţ	ţ	OFF	1	_	la
Vm (ON)	Į.	ţ	ON	OFF	ON	ţ	_	Voa, Voa
Vm (OFF)	-	ţ	1	Į.	OFF	1	_	Voa, Voa
lм	1	1	OFF	ļ	ON	QN	_	Iм measure when Vм (ON) = 3 V
iL '	а	а		1	OFF	OFF	a/b	ILA, ILB

For CDs/CD-ROMs



●Electrical characteristic curves (Ta=25°C)



Vin=1Vima (=1kHz Vii=1.8V 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 POWER SUPPLY: Voc (V)

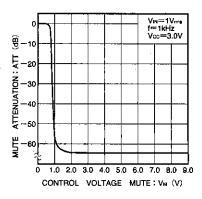


Fig. 3 Power supply voltage vs.

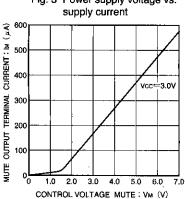


Fig. 4 Power'supply voltage vs. mute attenuation

Fig. 5 Mute control voltage vs. mute attenuation

External dimensions (Units: mm)

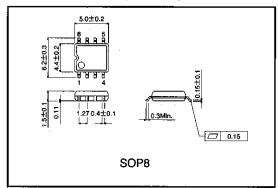


Fig. 6 Mute control voltage vs. mute control terminal current

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