FUDAN MICROELECTRONICS

复旦微电子

FM62429 Serial Data Control Dual Electronic Volume

Specification

May. 2008

Product Overview

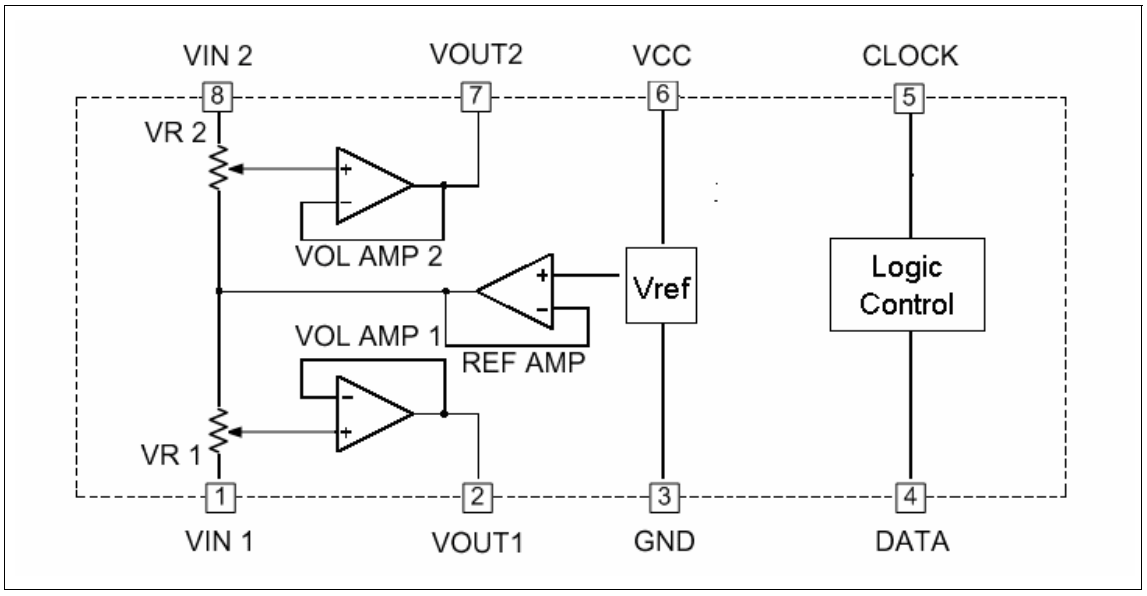
Instruction

FMSH' FM62429 is a dual channel electronic volume controlled with 2-wire serial date. It is designed special to adjust the range of audio-digital. The build-in reference circuit can constitute an electronic volume with less external parts. The FM62429 is completely compatible with the M62429P/FP of Mitsubishi.

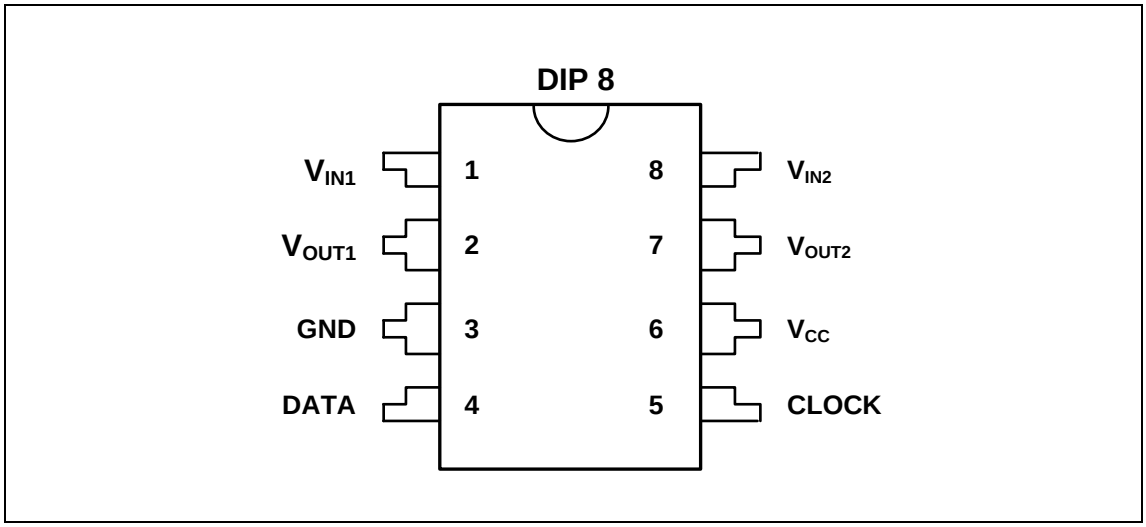
Features

- **Controlled with 2-wire serial data**
- **Independent control allowed in each channel**
- **Build-in reference circuit**
- **Gain range: 0dB to - 83dB(1dB/step), - ∞**
- **Low noise and low distortion**
- **Package: DIP8**

Block Diagram



Pin Assignation



Pin Description

Pin	Symbol	Functions
1	V_{IN1}	Channel 1 input pin
2	V_{OUT1}	Channel 1 output pin
3	GND	GND
4	DATA	Control date input pin. Inputs date in synchronization with clock.
5	CLOCK	Clock input pin for transferring serial data.
6	V_{CC}	Power supply pin. Stabilize the pin with decoupling capacitor.
7	V_{OUT2}	Channel 2 output pin
8	V_{IN2}	Channel 2 input pin

Characteristics

Absolute Maximum Ratings

Symbol	Parameter	Value	Unit
V_{CC}	Supply voltage	6.0	V
PD	Power dissipation	625	mW
T_{opr}	Operating temperature	- 20 to + 75	℃
T_{stg}	Storage temperature	- 55 to + 125	℃

Electrical Characteristics

(Vcc=5V, Ta=+25℃, unless otherwise noted)

Symbol	Parameter	Test Conditions	Specification			Unit
			Min.	Typ.	Max.	
I_{CC}	Circuit Current		-	6	12	mA
ATT_{MAX}	Maximum Attenuation	ATT= - ∞	-	-90	-80	dB
ATT_{ERR}	Attenuation error	ATT=0	-2.0	0	2.0	dB
V_{IM}	Maximum input voltage	THD=1%, ATT= -6dB	1.5	1.7	-	Vrms
V_{OM}	Maximum output voltage	THD=1%	0.8	1.3	-	Vrms
V_{NO1}	Output noise voltage	ATT=0, Rg=0, JIS-A	-	4	10	μVrms
V_{NO2}		ATT= - ∞, Rg=0, JIS-A	-	5	10	μVrms
THD	Total harmonic distortion	f=1kHz, VO=0.5Vrms, ATT=0	-	0.01	0.05	%
CS	Channel separation	f=1kHz, JIS-A	-	-80	-70	dB

DC Characteristics of Digital Block

Symbol	Parameter	Test Conditions		Specification			Unit
				Min.	Typ.	Max.	
V_{IL}	“L” level input voltage	Data/CLK Pin		0	-	0.2Vcc	V
V_{IH}	“H” level input voltage			0.8Vcc	-	Vcc	V
I_{IL}	“L” level input current	Input voltage:0V	Data/CLK	-10	-	10	μA
I_{IH}	“H” level input current	Input voltage:5V	Pin	-	-	10	μA

AC Characteristics of Digital Block

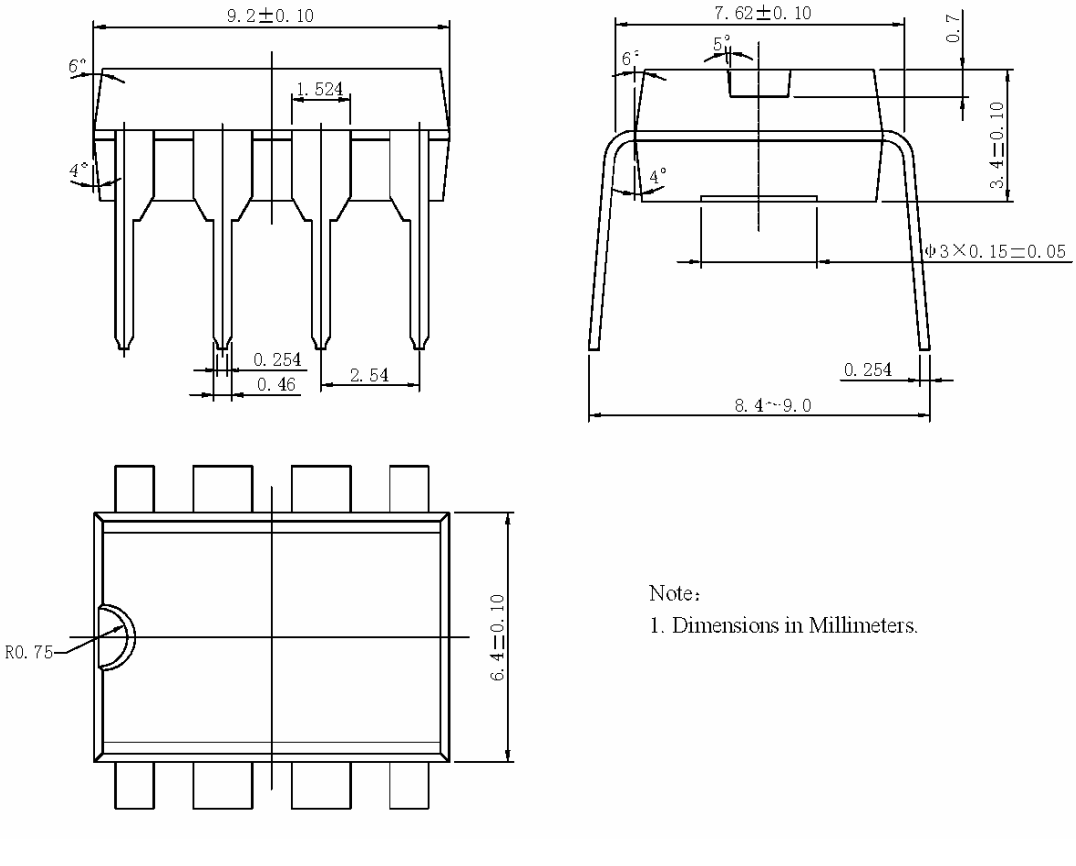
Symbol	Parameter	Test Condition	Specification			Unit
			Min.	Typ.	Max.	
t_{cr}	Cycle time of clock	-	4	-	-	μs
t_{WHC}	Pulse width of clock (“H” level)	-	1.6	-	-	μs
t_{WLC}	Pulse width of clock (“L” level)	-	1.6	-	-	μs
t_r	Clock rising time	-	-	-	0.4	μs
t_f	Clock falling time	-	-	-	0.4	μs
t_{SD}	Data setup time	-	0.8	-	-	μs
t_{HD}	Data hold time	-	0.8	-	-	μs

Ordering Information

Ordering code	Package	Operation temperature
FM62429-PD	PDIP8	Industrial Temperature -20°C ~ +75°C

Package Dimensions

PDIP 8



Note:
1. Dimensions in Millimeters.

Revision History

Version	Publication date	Pages	Paragraph or Illustration	Revise Description
1.0	Oct. 2007	10		Initial Release.
1.1	May. 2008	10	Sales and service	Updated the address of HK office.

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