



FM62429 Serial Data Control Dual Electronic Volume

Specification

Oct. 2007

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Product Overview

Instruction

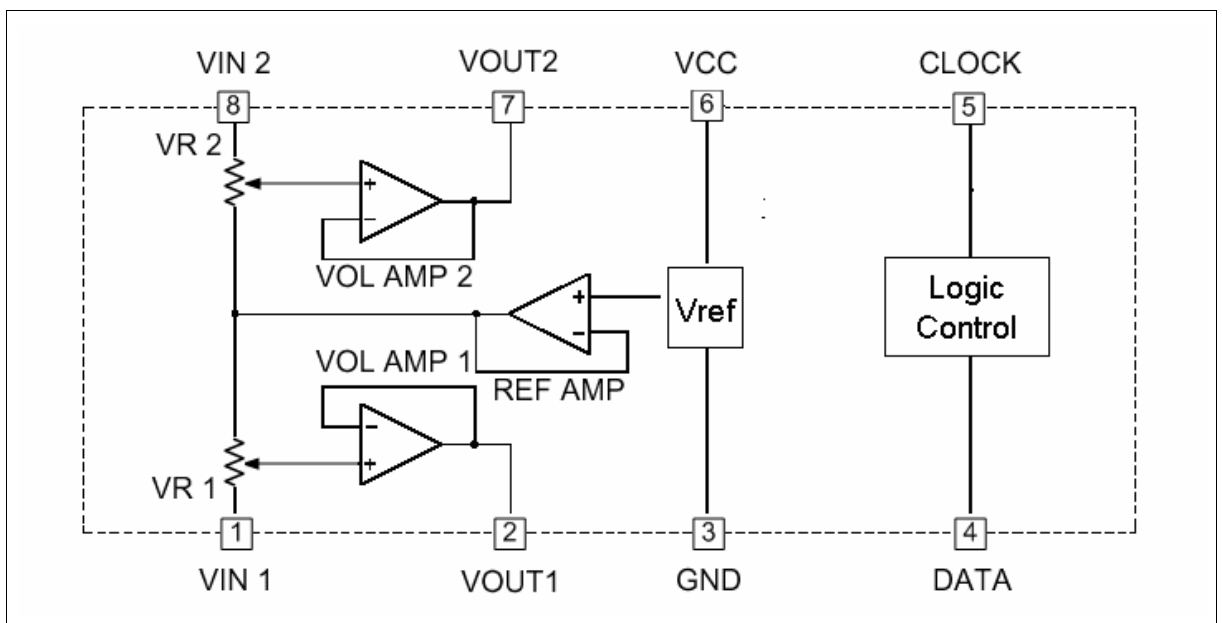
FMSH' FM62429 is a dual channel electronic volume controlled with 2-wire serial data. It is designed special to adjust the range of audio-digital. The build-in reference circuit can constitute an electronic volume with less external parts. The FM62429 is completely compatible with the M62429P/FP of Mitsubishi.

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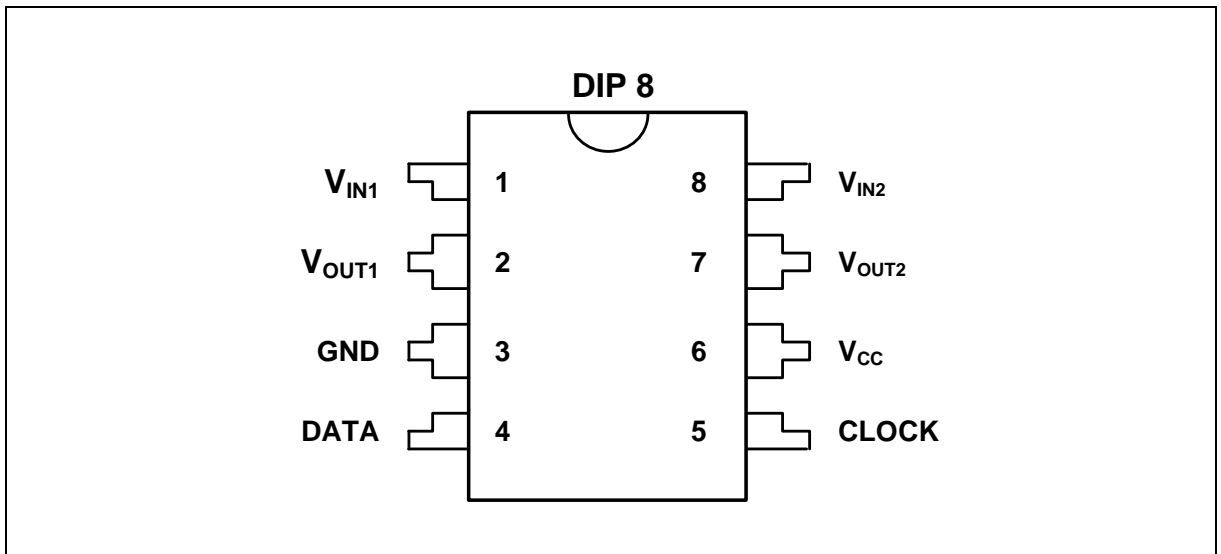
Features

- ◆ 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 Assignment



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	°C
T_{stg}	Storage temperature	- 55 to + 125	°C

Electrical Characteristics

($V_{CC}=5V$, $T_a=+25^{\circ}C$, unless otherwise noted)

Symbol	Parameter	Test Conditions	Specification			Unit
			Min.	Typ.	Max.	
I_{CC}	Circuit Current		-	6	12	mA
ATT_{MAX}	Maximum Attenuation	$ATT = -\infty$	-	-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	$ATT=0$, $R_g=0$, JIS-A	-	4	10	$\mu Vrms$
V_{NO2}		$ATT = -\infty$, $R_g=0$, JIS-A	-	5	10	$\mu Vrms$
THD	Total harmonic distortion	$f=1kHz$, $V_O=0.5Vrms$, $ATT=0$	-	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	-	$0.2V_{CC}$	V	
V_{IH}	"H" level input voltage		$0.8V_{CC}$	-	V_{CC}	V	
I_{IL}	"L" level input current	Input voltage:0V	Data/CLK Pin	-10	-	10	μA
I_{IH}	"H" level input current	Input voltage:5V		-	-	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

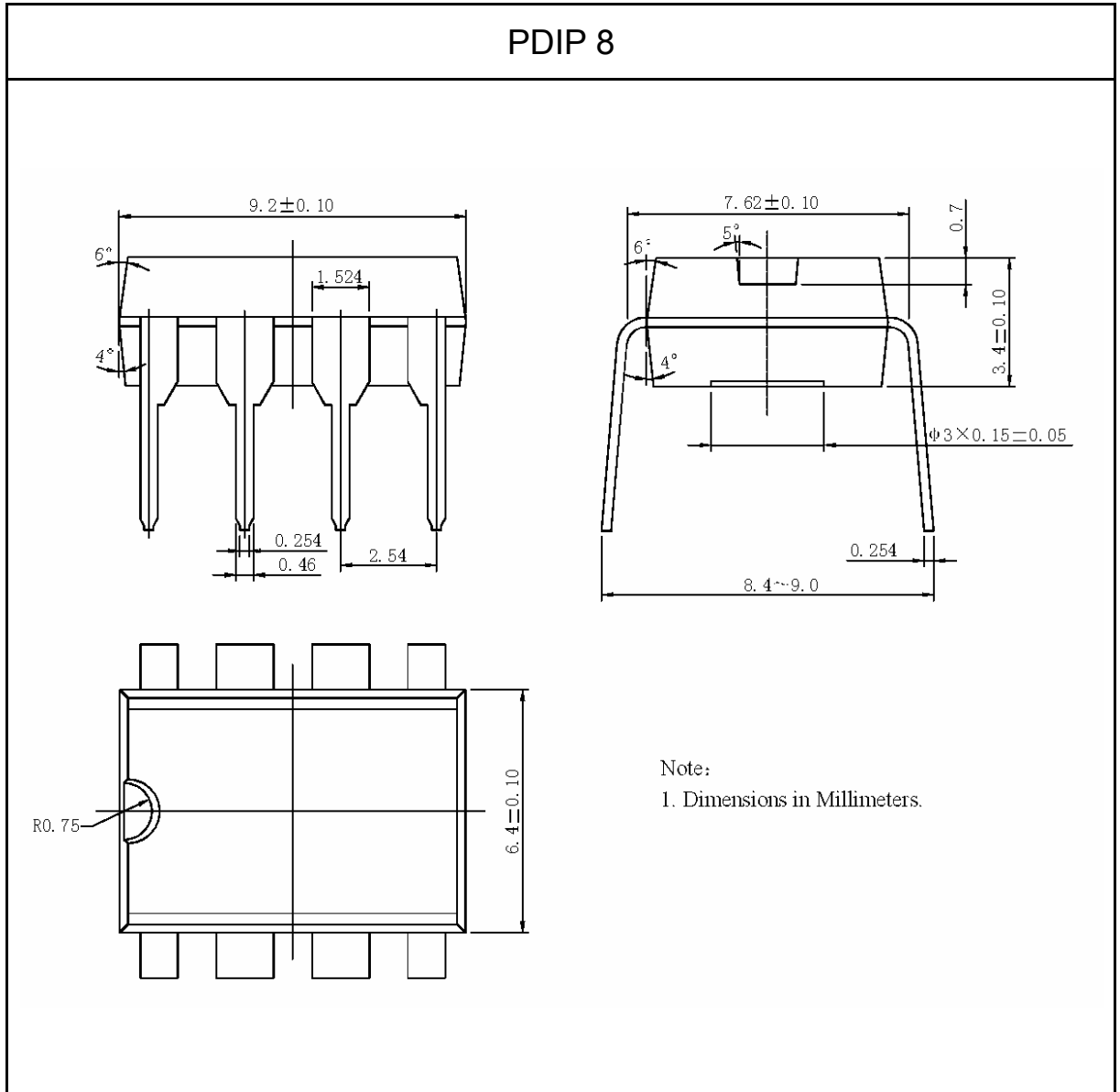
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Ordering Information

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

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Package Dimensions



Revision History

Version	Publication date	Pages	Paragraph or Illustration	Revise Description
1.0	Oct. 2007	10		Initial Release.

www.DataSheet

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