

阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

Structure Silicon Monolithic Integrated Circuit

Product Name Sound Generator for Cellular Phone

Product No. **BU8793KN**

Features 16 harmonies generator available at the same time
128 sounds + drum set 47 sounds generation

○Absolute Maximum Ratings(unless otherwise noted, Ta = 25°C)

Parameter	Symbol	Rating	Unit	Remarks
Power supply voltage	VDD	-0.3 - +4.5	V	
Voltage applied to pin	VIN	DVSS-0.3 - DVDD+0.3	V	
Input current	IIN	-1 - +1	mA	
Allowable dissipation	Pd	370*1	mW	The guaranteed value for the single unit IC
Storage temperature range	Tstg	-50 - 125	°C	
Operating temperature range	Topr	-40 - 85	°C	

(*1) When Ta is above 25°C, reduce 3.7mW per 1°C.

○Recommended operating conditions(unless otherwise noted, Ta = 25°C)

Parameter	Symbol	Rating			Unit	Remarks
		Min.	Typ.	Max.		
Power supply voltage	VDD	2.7	3.0	3.6	V	
Ambient temperature	Ta	-40	25	85	°C	
MCLK input frequency	FMCLK	12.5	-	18	MHz	Scale precision is within 0.2%
SCLK input frequency	FSCLK	-	-	MCLK	MHz	
MCLK duty	DMCLK	40	50	60	%	
SCLK duty	DSCLK	40	50	60	%	
ANOUT pin load resistance	ZAN	12	-	-	kΩ	The AC load resistance value. Apply to ANOUT-R,ANOUT-L and ANOUT-Mono pins.

This chip is not designed to protect itself against radioactive rays.

○Electrical Characteristics

(unless otherwise noted, Ta = 25°C)

Parameter	Symbol	Rating			Unit	Remarks
		Min.	Typ.	Max.		
Digital DC characteristics						
High-level input voltage	VIH	0.7 DVDD	-	-	V	
Low-level input voltage	VIL	-	-	0.25 DVDD	V	
High-level input current	IIH			10	μA	VIH=DVDD
Low-level input current	IIL	-10	-	-	μA	VIL=DVSS
High-level output voltage	VOH	DVDD -0.3	-	-	V	IOH=-0.8mA
Low-level output voltage	VOL	-	-	DVSS +0.3	V	IOL=0.8mA
Analog DC characteristics						
VREF pin voltage	VAGND	0.475 AVDD	0.5 AVDD	0.525 AVDD	V	IOUT=0A (no load)
ANOUT pin voltage	VOUT	0.47 AVDD	0.5 AVDD	0.53 AVDD	V	IOUT=0A (no load) when not playing
General characteristics						
VREF pin rise time	TRVR	-	70	100	mS	When Capa=1 μF between VREF and AVss NRST=L ->H
Analog (ANOUT pin) characteristics						
ANOUT amplitude	VMAX	-	0.667 AVDD	-	Vp-p	Theoretical value of dynamic range
Current consumption Vdd=3V, Internal operation frequency=13MHz						
Analog Idd	IDD1	-	1.3	3	mA	Playing
Digital Idd	IDD2	-	16.5	22	mA	Playing
Analog Idd	IDD3	-	0	1	μA	Standby mode
Digital Idd	IDD4	-	0	5	μA	Standby mode

- Cautions on use
 - (1) Absolute Maximum Ratings

An excess in the absolute maximum ratings, such as supply voltage, temperature range of operating conditions, etc., can break down devices, thus making impossible to identify breaking mode such as a short circuit or an open circuit. If any special mode exceeding the absolute maximum ratings is assumed, consideration should be given to take physical safety measures including the use of fuses, etc.
 - (2) Operating conditions

These conditions represent a range within which characteristics can be provided approximately as expected. The electrical characteristics are guaranteed under the conditions of each parameter.
 - (3) Reverse connection of power supply connector

The reverse connection of power supply connector can break down ICs. Take protective measures against the breakdown due to the reverse connection, such as mounting an external diode between the power supply and the IC's power supply terminal.
 - (4) Power supply line

Design PCB pattern to provide low impedance for the wiring between the power supply and the GND lines. In this regard, for the digital block power supply and the analog block power supply, even though these power supplies has the same level of potential, separate the power supply pattern for the digital block from that for the analog block, thus suppressing the diffraction of digital noises to the analog block power supply resulting from impedance common to the wiring patterns. For the GND line, give consideration to design the patterns in a similar manner. Furthermore, for all power supply terminals to ICs, mount a capacitor between the power supply and the GND terminal. At the same time, in order to use an electrolytic capacitor, thoroughly check to be sure the characteristics of the capacitor to be used present no problem including the occurrence of capacity dropout at a low temperature, thus determining the constant.
 - (5) GND voltage

Make setting of the potential of the GND terminal so that it will be maintained at the minimum in any operating state. Furthermore, check to be sure no terminals are at a potential lower than the GND voltage including an actual electric transient.
 - (6) Short circuit between terminals and erroneous mounting

In order to mount ICs on a set PCB, pay thorough attention to the direction and offset of the ICs. Erroneous mounting can break down the ICs. Furthermore, if a short circuit occurs due to foreign matters entering between terminals or between the terminal and the power supply or the GND terminal, the ICs can break down.
 - (7) Operation in strong electromagnetic field

Be noted that using ICs in the strong electromagnetic field can malfunction them.
 - (8) Inspection with set PCB

On the inspection with the set PCB, if a capacitor is connected to a low-impedance IC terminal, the IC can suffer stress. Therefore, be sure to discharge from the set PCB by each process. Furthermore, in order to mount or dismount the set PCB to/from the jig for the inspection process, be sure to turn OFF the power supply and then mount the set PCB to the jig. After the completion of the inspection, be sure to turn OFF the power supply and then dismount it from the jig. In addition, for protection against static electricity, establish a ground for the assembly process and pay thorough attention to the transportation and the storage of the set PCB.
 - (9) Input terminals

In terms of the construction of IC, parasitic elements are inevitably formed in relation to potential. The operation of the parasitic element can cause interference with circuit operation, thus resulting in a malfunction and then breakdown of the input terminal. Therefore, pay thorough attention not to handle the input terminals, such as to apply to the input terminals a voltage lower than the GND respectively, so that any parasitic element will operate. Furthermore, do not apply a voltage to the input terminals when no power supply voltage is applied to the IC. In addition, even if the power supply voltage is applied, apply to the input terminals a voltage lower than the power supply voltage or within the guaranteed value of electrical characteristics.
 - (10) Ground wiring pattern

If small-signal GND and large-current GND are provided, It will be recommended to separate the large-current GND pattern from the small-signal GND pattern and establish a single ground at the reference point of the set PCB so that resistance to the wiring pattern and voltage fluctuations due to a large current will cause no fluctuations in voltages of the small-signal GND. Pay attention not to cause fluctuations in the GND wiring pattern of external parts as well.
 - (11) External capacitor

In order to use a ceramic capacitor as the external capacitor, determine the constant with consideration given to a degradation in the nominal capacitance due to DC bias and changes in the capacitance due to temperature, etc.
 - (12) Others

In case of use this LSI, please peruse some other detail documents, we called ,Technical note, Functional description, Application note.

Notes

No copying or reproduction of this document, in part or in whole, is permitted without the consent of ROHM CO.,LTD.

The content specified herein is subject to change for improvement without notice.

The content specified herein is for the purpose of introducing ROHM's products (hereinafter "Products"). If you wish to use any such Product, please be sure to refer to the specifications, which can be obtained from ROHM upon request.

Examples of application circuits, circuit constants and any other information contained herein illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

Great care was taken in ensuring the accuracy of the information specified in this document. However, should you incur any damage arising from any inaccuracy or misprint of such information, ROHM shall bear no responsibility for such damage.

The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM and other parties. ROHM shall bear no responsibility whatsoever for any dispute arising from the use of such technical information.

The Products specified in this document are intended to be used with general-use electronic equipment or devices (such as audio visual equipment, office-automation equipment, communication devices, electronic appliances and amusement devices).

The Products are not designed to be radiation tolerant.

While ROHM always makes efforts to enhance the quality and reliability of its Products, a Product may fail or malfunction for a variety of reasons.

Please be sure to implement in your equipment using the Products safety measures to guard against the possibility of physical injury, fire or any other damage caused in the event of the failure of any Product, such as derating, redundancy, fire control and fail-safe designs. ROHM shall bear no responsibility whatsoever for your use of any Product outside of the prescribed scope or not in accordance with the instruction manual.

The Products are not designed or manufactured to be used with any equipment, device or system which requires an extremely high level of reliability the failure or malfunction of which may result in a direct threat to human life or create a risk of human injury (such as a medical instrument, transportation equipment, aerospace machinery, nuclear-reactor controller, fuel-controller or other safety device). ROHM shall bear no responsibility in any way for use of any of the Products for the above special purposes. If a Product is intended to be used for any such special purpose, please contact a ROHM sales representative before purchasing.

If you intend to export or ship overseas any Product or technology specified herein that may be controlled under the Foreign Exchange and the Foreign Trade Law, you will be required to obtain a license or permit under the Law.

Thank you for your accessing to ROHM product informations.

More detail product informations and catalogs are available, please contact your nearest sales office.

ROHM Customer Support System

THE AMERICAS / EUROPE / ASIA / JAPAN

www.rohm.com

Contact us : webmaster@rohm.co.jp