Product News

ROHM Co.,Ltd.
21 Saiin Mizosaki-cho, Ukyo-ku,
Kyoto 615-8585 Japan
TEL : +81-75-311-2121
FAX : +81-75-315-0172
www.rohm.com

USB Host Audio Decoder ICs

BU9457KV/BU9458KV

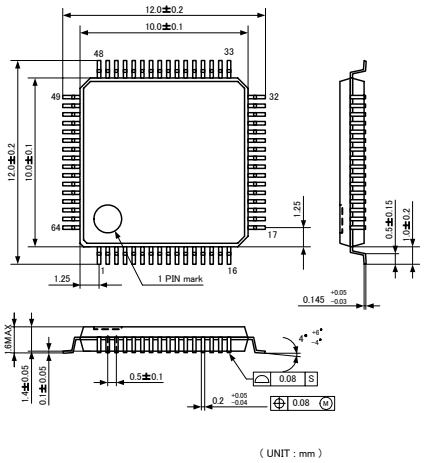
●Outline

BU9457KV/BU9458KV is a Compressed Audio decoder IC in which a USB host I/F, SD memory card I/F, audio DAC and system control functions are built.
the IC reads out a Compressed Audio file written to a memory device having a USB I/F or a SD memory card. All the operations required before the data can be output to audio devices are incorporated into one chip.
Because all functions are built into, USB host Audio function can be easily achieved by reducing in application parts and simplifying control software.

●Features

1) Builds in the USB Full speed HOST control function
2) Builds in the System controller
3) Supports FAT16 and FAT32
4) Supports MP3(BU9457KV), Supports MP3/WMA/AAC (BU9458KV)

●Dimensions (Unit: mm)



VQFP6

●Applications

Audio set such as Stereocomponents, Radiocassete system, AV receiver and Car Audio.

●Absolute Maximum Ratings (Ta=25ºC)

Parameter	Symbol	Limits	Unit
Supply Voltage (Analog, I/O)	VDD1MAX	-0.3 to 4.5	V
Input Voltage	VIN	−0.3 to VDD1+0.3	V
StorageTemperature Range	Tstg	−55 to 125	°C
Operating Temperature Range	Topr	−40 to 85	°C
Power Dissipation	Pd	750 *1	mW

*1: Reduced by 7.5mW / °C over Ta=25°C

●Recommended Operating Range (Ta=25°C unless otherwise noted)

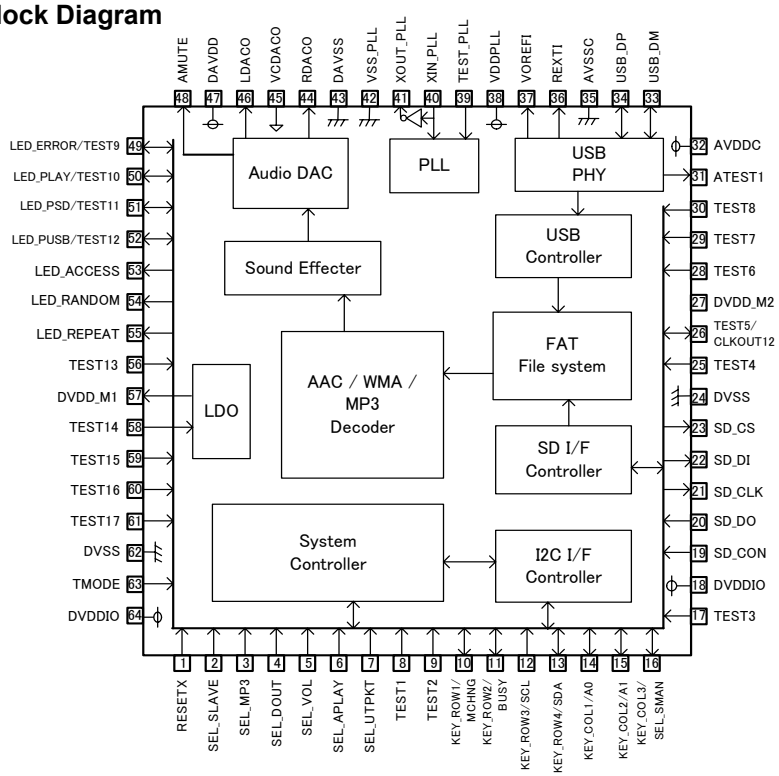
Parameter	Symbol	Rating	Unit
Power voltage (analog, IO)	VDD1	3.0 to 3.6	V

●Electrical Characteristics (BU9458KV, Ta=25°C, VDD1=3.3V, unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max	Unit	Conditions
<General>						
Operating power consumption (VDD1USB)	IDD1USB	-	65	80	mA	*1, When playing USB memory
<USB Interface>						
H input voltage	VIHUSB	VDD1*0.6	-	VDD1	V	*2
L input voltage	VILUSB	AVSSC	-	VDD1*0.3	V	*2
Output impedance (H)	ZOH	22.0	45.0	60.0	Ω	*2
Output impedance (L)	ZOL	22.0	45.0	60.0	Ω	*2
H output voltage	VOHUSB	VDD1-0.5	-	VDD1	V	*2
L output voltage	VOLUSB	0	-	0.3	V	*2
Rise/Fall time	T_r/T_f	-	11	-	ns	*2, Output capacity 50pF
Cross point voltage	VCRS	-	VDD1/2	-	V	*2, Output capacity 50pF
Differential input range	VDIFF	0.8	-	2.5	V	*2
Differential input sensitivity	VSENS	0.2	-	-	V	*2
Pull-down resistance	RPD	14.25	15.0	24.8	kΩ	*2
<Audio DAC>						
Distortion	THD	-	0.02	-	%	1kHz, 0dB, sine, *3
S/N ratio	S/N	-	96	-	dB	*3
Maximum output level	VSMAX	-	0.92	-	Vrms	1kHz, 0dB, sine, *3

*1 3.3V system I/O, analog power supply (VDD1), When playing 1kHz, 0dB, sinewave
*2 USB_DPpin, USB_DM pin
*3 RDAOpin, LDACOpin

●Block Diagram



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