

Audio I/O LSI for digital still camera

BH6415KN

BH6415KN are an audio I/O LSI for DSC. MIC AMP, ALC, LINE AMP, LPF, EVR, BTL monaural SP AMP to compose Analog signal I/O interface are incorporated into a single chip. Each mode (pass setting, ALC, LPF fc, EVR, BEEP etc.) can be controlled by 3-wire serial control. Integration into a single chip of small QFN28V package enables to reduce space and cost.

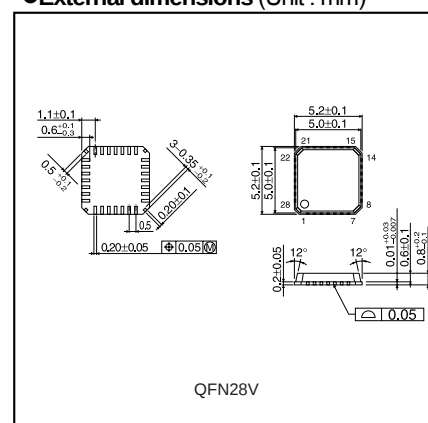
●Applications

Digital still camera

●Features

- 1) 4-order + 1 trap LPF of REC and PB are incorporated into a single chip. →Cut-off frequency can be switched in 2 steps. (fc=8kHz, 16kHz)
- 2) 13step EVR. (0 to -44dB, MUTE)
- 3) With MUTE function SPAMP. (BTL)
- 4) 6step BEEP. (-12.5 to -27.5dB)
- 5) 3-wire serial control.
- 6) Unnecessary current consumption can be reduced by standby control in every block.
- 7) Low current consumption, Space reduction, Cost reduction.

●External dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V _{CC}	4.5	V
Power dissipation	P _d	580 *	mW
Operating temperature range	T _{opr}	-20 to 70	°C
Storage temperature range	T _{stg}	-50 to 125	°C

*Copper foil thickness, when glass epoxy board mounted 35μm.

●Recommended operating conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	V _{CC}	3.0	3.3	3.6	V

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current	IALL	—	7.0	17.9	mA	No signal
MICAMP voltage gain	GV	47.5	49.0	50.5	dB	Vin=−65dBV, f=1kHz, ALC:off
Input conversion noise voltage	V _{NI} N	—	−110	−90	dBV	B.W.=DIN AUDIO
ALC level	VOALC	1.0	1.52	2.2	Vpp	Vin=−30dBV, f=1kHz
LPF frequency characteristic1	ΔGV1	−3.0	−0.5	—	dB	Vin=−17.5dBV, fin=3kHz/1kHz, fc=8kHz mode
frequency characteristic2	ΔGV2	—	−10	−7.0	dB	Vin=−17.5dBV, fin=4kHz/1kHz, fc=8kHz mode
frequency characteristic3	ΔGV3	—	−50	−30	dB	Vin=−17.5dBV, fin=8kHz/1kHz, fc=8kHz mode
SPAMP voltage gain	GV	10.5	12.0	13.5	dB	Vin=−17.5dBV, f=1kHz
Maximum output voltage	VOM	250	300	—	mW	8Ω load, THD=10%, BTL

[illegible]