



Real-time Video processor LSI for Car Navigation/Car Entertainment Systems BU1573KV

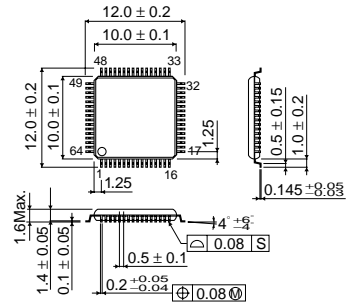
●Outline

The BU1573KV is a real-time video processing LSI featuring ROHM's unique AIE (Adaptive Image Enhancer) developed specifically for car navigation and car entertainment systems

●Features

- 1) Supports a wide range of resolutions, from QCIF (176 x 144) to WVGA+ (864 x 480)
- 2) Compatible with 80 series CPU and RGB interfaces.
- 3) INPUT/OUTPUT data format compatible with RGB=6:6:6,5:6:5.
- 4) Equipped with multiple operation modes: image enhance, analysis, through, sleep.
- 5) Register setting possible via indirect 80 series CPU addressing or 2-line serial interface (I²C).
- 6) PWM output for the LCD backlight
- 7) Build-in edge-emphasizing filter and gamma correction

●Dimensions (Unit: mm)



VQFP64
(BU1573KV)

●Applications

Car navigation/Car entertainment systems/Car monitor

●Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Supply Voltage 1	VDDIO	-0.3 to +4.2	V
Power Supply Voltage 2	VDD	-0.3 to +2.1	V
Input Voltage	VIN	-0.3 to VDDIO+0.3	V
Storage Temperature Range	Tstg	-40 to +125	°C
Power Dissipation	PD	750*1	mW

*1 Derated at 7.5mW/°C above 25 °C.

●Operating Conditions

Parameter	Symbol	Rating	Unit
Power Supply Voltage 1	VDDIO	2.70 to 3.60(Typ: 3.0V)	V
Power Supply Voltage 2	VDD	1.40 to 1.60 (Typ: 1.50V)	V
Input Voltage Range	VIN-VDDIO	0 to VDDIO	V
Operating Temperature Range	Topr	-40 to +85	°C

- The specifications for the product described in this document are for reference only. Upon actual use, therefore, please request that specifications to be separately delivered.
- The application circuit examples, information, and various data pertaining to the use of the products presented in this documentation are provided for reference purposes only.
- Please note that ROHM cannot bear any responsibility regarding any problems relating to industrial property rights resulting from their use thereof.

The products listed in this catalog are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).

Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Current specifications in effect of 1st. May 2007.

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●Electrical Characteristics

(Unless otherwise specified, VDD = 1.50 V, VDDIO = 3.0 V, GND = 0.0 V, Ta = 25°C, f_{IN} = 36.0 MHz)

Parameter	Symbol	Limits			Unit	Condition
		MIN.	TYP.	MAX.		
Input Frequency	f _{IN}	-	-	36.0	MHz	DCKI (DUTY45% - 55%)
Operating Current Consumption	IDD1	-	10	-	mA	In the enhance mode (36 MHz in operation)
Standby Current Consumption	IDDst	-	-	30	uA	In the sleep mode, input pin: GND or OPEN
Input "H" Current	I _{IH}	-10	-	10	uA	V _{IH} = VDDIO
Input "L" Current	I _{IL}	-10	-	10	uA	V _{IL} = GND
Input "H" Voltage 1	V _{IH1}	VDDIO × 0.8	-	VDDIO + 0.3	V	Normal input (including input mode of I/O terminal)
Input "L" Voltage 1	V _{IL1}	-0.3	-	VDDIO × 0.2	V	Normal input (including input mode of I/O terminal)
Input "H" Voltage 2	V _{IH2}	VDDIO × 0.85	-	VDDIO + 0.3	V	Hysteresis input (RESETB, DCKI, LCDCSBI, LCDWRBI, LCDRDBI, SDA, SDC)
Input "L" Voltage 2	V _{IL2}	-0.3	-	VDDIO × 0.15	V	Hysteresis input (RESETB, DCKI, LCDCSBI, LCDWRBI, LCDRDBI, SDA, SDC)
Hysteresis Voltage Range	V _{hys}	-	0.5	-	V	Hysteresis input (RESETB, DCKI, LCDCSBI, LCDWRBI, LCDRDBI, SDA, SDC)
Output "H" Voltage	V _{OH}	VDDIO - 0.4	-	VDDIO	V	I _{OH} = -1.0 mA (DC) (including output mode of I/O terminal)
Output "L" Voltage	V _{OL}	0.0	-	0.4	V	I _{OL} = 1.0 mA (DC) (including output mode of I/O terminal)

●Block Diagram

