

Structure                      Silicon Monolithic Integrated Circuit

Product name                Low voltage operation video driver with LPF

Model                            **B H 7 6 8 0 6 F V M**

Outer dimensions            Fig 1   **MSOP — 8**    (Plastic mold)

- Function
- Built in 6dB AMP
  - Built in LPF(8order) (f = 4.5MHz)
  - MSOP-8 plastic mold
  - Built in standby function (Standby current is 0  $\mu$  A;TYP)
  - No output coupling capacitor required

※ Radiation resistance is not included in the design.

■ **Absolute maximum rating**    (Ta=25°C)

| Parameter                   | Symbol | Rating          | Unit |
|-----------------------------|--------|-----------------|------|
| Impressed voltage           | Vcc    | 3 . 5 5         | V    |
| Power Dissipation           | Pd     | 4 7 0           | mW   |
| Operating temperature range | Topr   | − 4 0 ~ + 8 5   | °C   |
| Storage temperature range   | Tstg   | − 5 5 ~ + 1 2 5 | °C   |

- \* For operation above 25°C free-air temperature, power dissipation is decreasing 4.7mW/°C
- \* In case mounting the ROHM standard application board (70mmX70mmX1.6mm)

■ **Operating voltage range**    (Ta=25°C)

| Parameter               | Symbol | Min.  | Std.  | Max.    | Unit |
|-------------------------|--------|-------|-------|---------|------|
| Operating voltage range | Vcc    | 2 . 5 | 3 . 0 | 3 . 4 5 | V    |

**■Electrical characteristic** 【Ta=25°C, VCC=3V unless otherwise specified】

| Parameter                                   | Symbol             | Specifications |       |                 | Unit            | Testing condition                                                      |
|---------------------------------------------|--------------------|----------------|-------|-----------------|-----------------|------------------------------------------------------------------------|
|                                             |                    | Min.           | Std   | Max             |                 |                                                                        |
| Circuit current 1                           | I <sub>CC1</sub>   | —              | 16    | 25              | mA              | No Signal                                                              |
| Circuit current 2                           | I <sub>CC2</sub>   | —              | 0.0   | 2               | μA              | Standby mode                                                           |
| Voltage gain                                | G <sub>v</sub>     | +5.5           | +6.0  | +6.5            | dB              | V <sub>in</sub> =100KHz, 1.0V <sub>pp</sub>                            |
| Maximum output level                        | V <sub>omv</sub>   | 4.5            | 5.2   | —               | V <sub>pp</sub> | f=10KHz、THD=1%                                                         |
| Frequency characteristics 1                 | G <sub>f1</sub>    | -0.95          | -0.45 | 0.05            | dB              | f=4.5MHz/100KHz                                                        |
| Frequency characteristics 2                 | G <sub>f2</sub>    | -5.0           | -3.0  | -1.0            | dB              | f=8.0MHz/100KHz                                                        |
| Frequency characteristics 3                 | G <sub>f3</sub>    | —              | -32   | -18             | dB              | f=18MHz/100KHz                                                         |
| Frequency characteristics 4                 | G <sub>f4</sub>    | —              | -51   | —               | dB              | f=23.5MHz/100KHz                                                       |
| Differential Gain                           | D <sub>G</sub>     | —              | 0.5   | 3.0             | %               | V <sub>IN</sub> = 1.0Vp-p<br>Standard stair step signal                |
| Differential Phase                          | D <sub>P</sub>     | —              | 1.0   | 3.0             | deg             | V <sub>IN</sub> = 1.0Vp-p<br>Standard stair step signal                |
| Y signal output S/N                         | SN <sub>Y</sub>    | +50            | +74   | —               | dB              | Band 100k~6MHz<br>Terminal impedance 75 Ω<br>100% White video signal   |
| C signal output S/N (AM)                    | SN <sub>CA</sub>   | +50            | +77   | —               | dB              | Band 100~500kHz<br>Terminal impedance 75 Ω<br>100% chroma video signal |
| C signal output S/N (PM)                    | SN <sub>CP</sub>   | +50            | +65   | —               | dB              | Band 100~500kHz<br>Terminal impedance 75 Ω<br>100% chroma video signal |
| Output pin source current                   | I <sub>extin</sub> | —              | 30    | —               | mA              | Add 4.5V to Output pin<br>through 150 Ω                                |
| Output DC offset                            | V <sub>off</sub>   | -50            | 0     | 50              | mV              | Terminal impedance 75 Ω                                                |
| Standby SW Change Voltage High Level        | V <sub>thH</sub>   | 1.2            | —     | V <sub>cc</sub> | V               | Standby OFF                                                            |
| Standby SW Change Voltage Low Level         | V <sub>thL</sub>   | 0              | —     | 0.45            | V               | Standby ON                                                             |
| Standby SW input current Voltage High Level | I <sub>thH</sub>   | 35             | 45    | 60              | μA              | 4pin=3.0V                                                              |

**■Control terminal**

| Parameter     | Status | Note          |
|---------------|--------|---------------|
| STANDBY(4PIN) | H      | STANDBY : OFF |
|               | L      | STANDBY : ON  |
|               | OPEN   | STANDBY : ON  |

■Physical dimensions

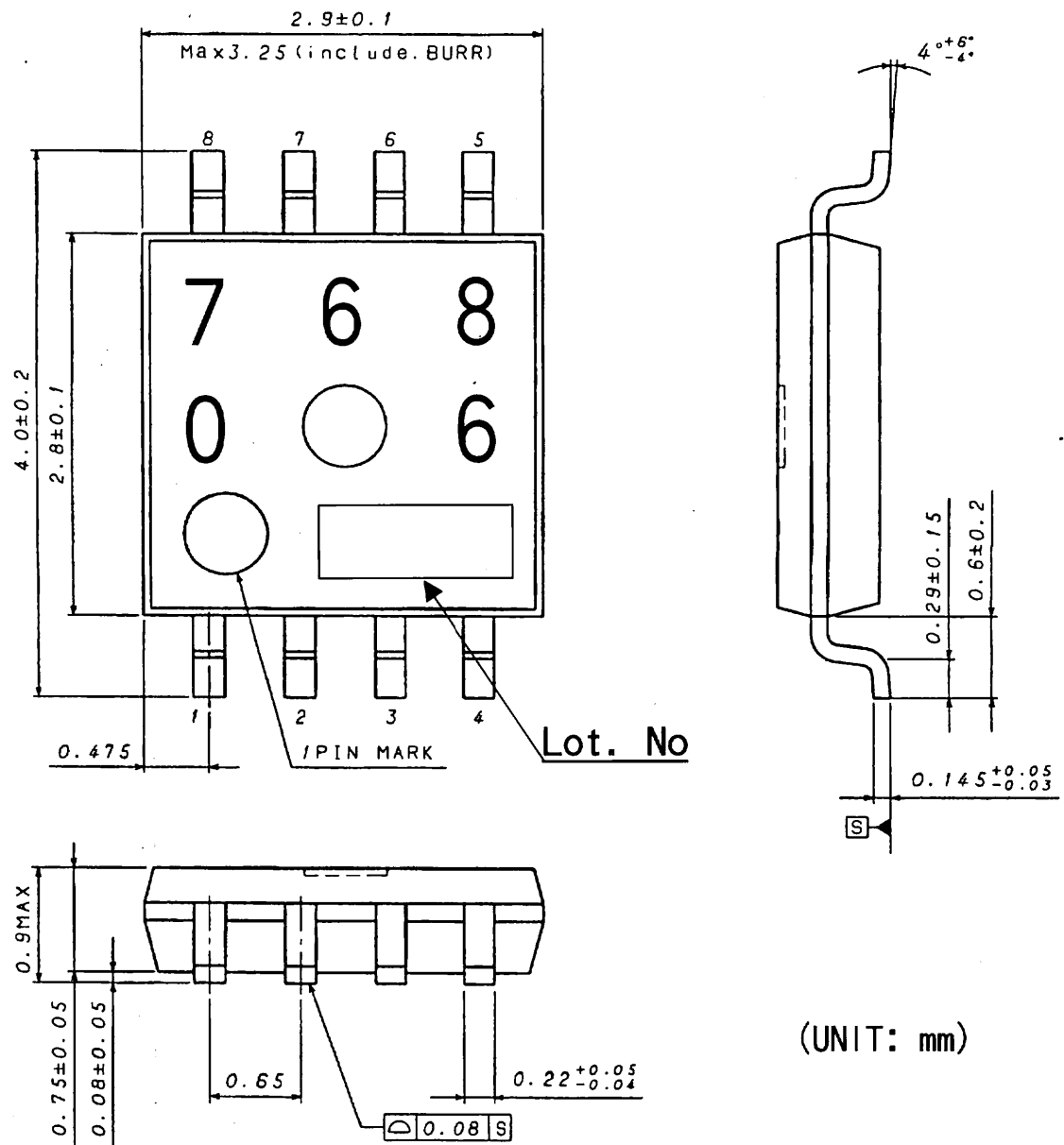


Fig 1 MSOP-8 (Plastic mold)

## Measurement circuit

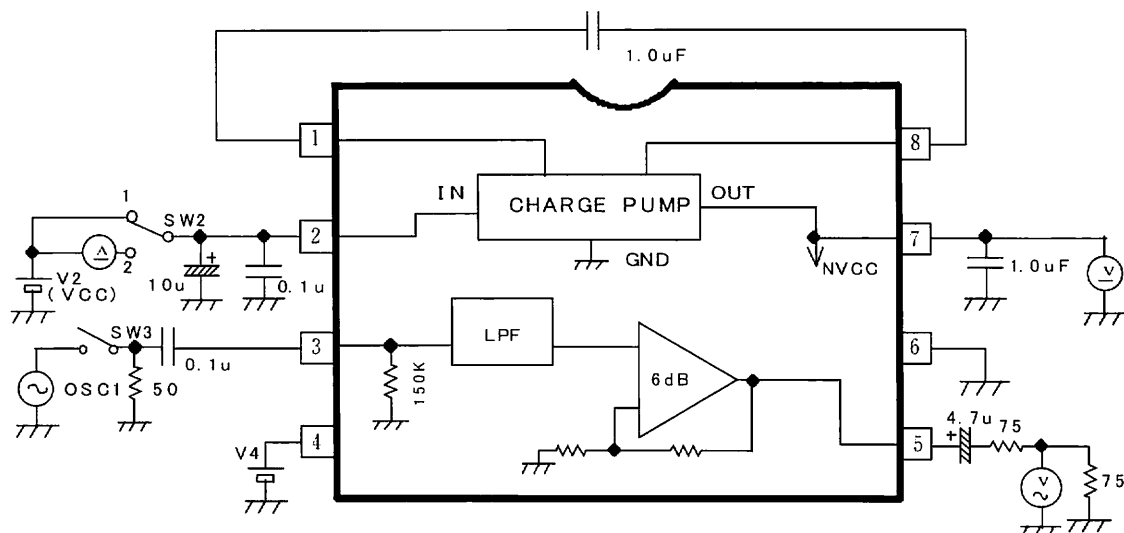


Fig 2

## Block diagram

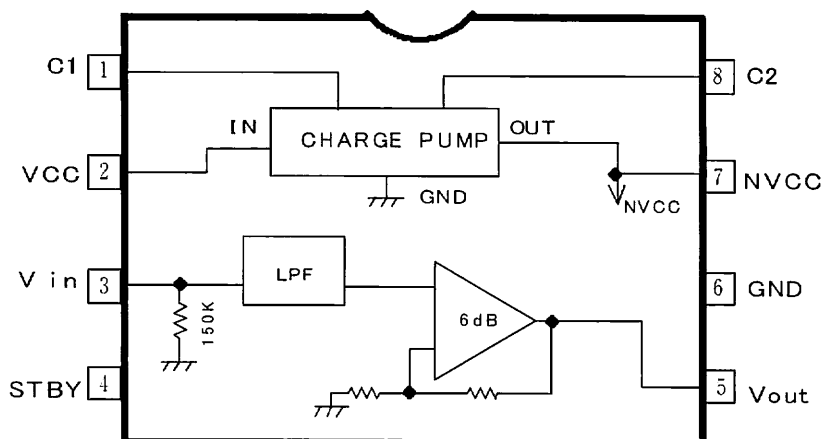


Fig 3

## Notification on use

- 1; Pay particular attention on pin assignment to prevent irreversible damage to the IC.

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