

# AN2516S

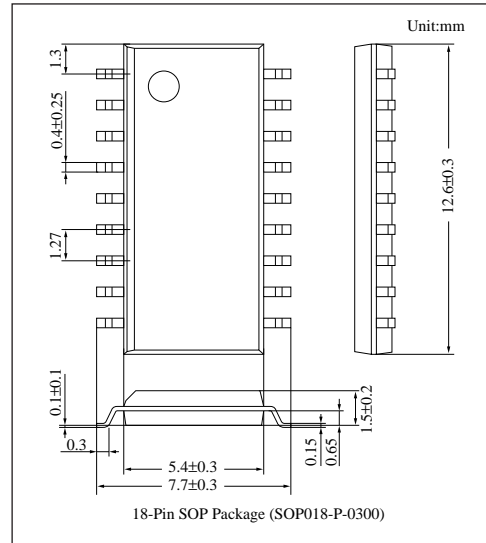
## Electronic View-Finder Driving IC with Character Input

### ■ Overview

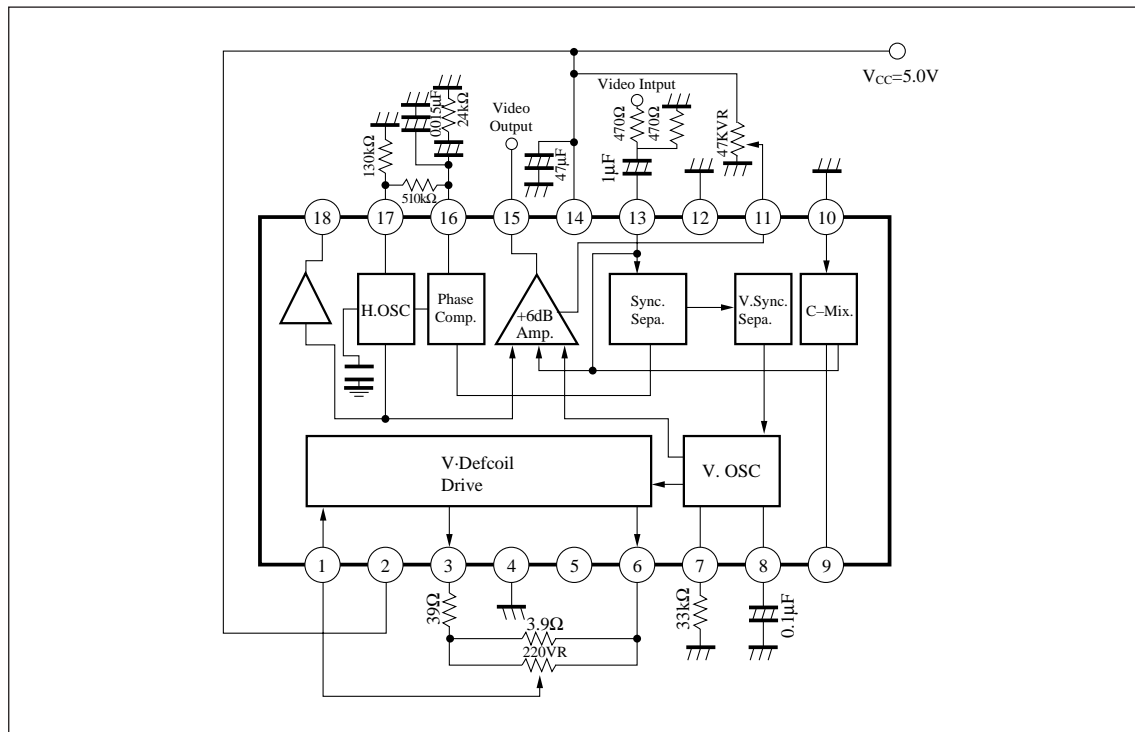
The AN2516S is a drive IC for an electronic monochrome view-finder of a video camera. The AN2516S has all the functions of the AN2515S except HD and VD output, and has attached  $\gamma$ -correction (which compensates luminance characteristics). It is easy to make up a 0.5-inch electronic view-finder with minimal external components.

### ■ Features

- Built-in video amplifier, synchronous signal separation, horizontal vertical oscillator, AFC,  $\gamma$  correction, character mixing, and vertical driver circuits.
- Direct drive of a vertical deflection coil available
- Built-in capacitor for vertical synchronous signal separation



### ■ Block Diagrams



## ■ Absolute Maximum Ratings (Ta=25°C)

| Parameter  | Symbol           | Rating      | Unit |
|--|------------------|-------------|------|
| Supply voltage                                   | V <sub>CC</sub>  | 5.5         | V    |
| Supply current                                   | I <sub>CC</sub>  | 47          | mA   |
| Power dissipation <sup>Note 2)</sup>             | P <sub>D</sub>   | 190         | mW   |
| Operating ambient temperature <sup>Note 1)</sup> | T <sub>opr</sub> | -20 to +75  | °C   |
| Storage temperature <sup>Note 1)</sup>           | T <sub>stg</sub> | -55 to +125 | °C   |

Note 1) Ta=25°C except operating ambient temperature and storage temperatures unless otherwise specified.

Note 2) Allowable power dissipation of the package at Ta=70°C.

## ■ Recommended Operating Range (Ta=25°C)

| Parameter                      | Symbol          | Range        |
|--------------------------------|-----------------|--------------|
| Operating supply voltage range | V <sub>CC</sub> | 4.5V to 5.3V |

## ■ Electrical Characteristics (V<sub>CC</sub>=5V, Ta=25±2°C)

| Parameter  | Symbol              | Condition | min   | typ   | max   | Unit  | Note       |
|--|---------------------|-----------|-------|-------|-------|-------|------------|
| Supply current (1)                               | I <sub>2</sub>      |           | 2.35  | 7.5   | 13.0  | mA    | at no-load |
| Supply current (2)                               | I <sub>14</sub>     |           | 5.5   | 10.0  | 14.0  | mA    | at no-load |
| Video amp. gain (1)                              | G <sub>V1</sub>     |           | 10.5  | 11.5  | 12.5  | dB    | —          |
| Video amp. gain (2)                              | G <sub>V2</sub>     |           | 4.3   | 5.3   | 6.3   | dB    | —          |
| Synchronous separating capability (1)            | HSEP1               |           | 0.2   | —     | —     | V     | —          |
| Synchronous separating capability (2)            | HSEP2               |           | —     | —     | 1.3   | V     | —          |
| Video signal HD width                            | τ <sub>Hout</sub>   |           | 7.0   | 8.0   | 9.0   | μs    | —          |
| AFC output HD width                              | τ <sub>AFCHD</sub>  |           | 9.5   | 10.5  | 11.5  | μs    | —          |
| Horizontal free oscillation freq.                | f <sub>Hfree</sub>  |           | 14.25 | 15.75 | 17.25 | kHz   | —          |
| AFC loop gain                                    | f <sub>AFC</sub>    |           | 15.25 | 15.75 | 16.25 | kHz   | —          |
| Control sensitivity                              | β                   |           | 840   | 960   | 1080  | Hz/μA | —          |
| Vertical separation time                         | T <sub>VSEP</sub>   |           | 8     | 16    | 24    | μs    | —          |
| Video signal HD width                            | τ <sub>VOUT</sub>   |           | 1.1   | 1.3   | 1.5   | ms    | —          |
| Vertical free-oscillation freq.                  | f <sub>Vfree</sub>  |           | 45    | 49    | 53    | Hz    | —          |
| Vertical deflection output amplitude (1)         | V <sub>VDEF1</sub>  |           | 1.3   | 1.6   | 1.9   | V     | —          |
| Vertical deflection output amplitude (2)         | V <sub>VDEF2</sub>  |           | 1.3   | 1.6   | 1.9   | V     | —          |
| Vertical deflection output dynamic range (1)     | DR <sub>VDEF1</sub> |           | 2.0   | 2.4   | 2.8   | V     | —          |
| Vertical deflection output dynamic range (2)     | DR <sub>VDEF2</sub> |           | 2.0   | 2.4   | 2.8   | V     | —          |
| Character-Black level                            | CBL                 |           | 0.15  | 0.20  | 0.25  | —     | —          |
| Character-White level                            | CWL                 |           | 0.65  | 0.85  | 1.05  | —     | —          |
| Vertical deflection output min. drive capability | V <sub>3-4</sub>    |           | 0.65  | —     | —     | V     | —          |

**■ Pin Descriptions**

| Pin No. | Pin name                                   | Pin No. | Pin name                            |
|---------|--|---------|-------------------------------------|
| 1       | Vertical size control input                | 10      | Character input                     |
| 2       | Power supply input                         | 11      | Gamma control                       |
| 3       | Vertical deflection coil driver output (1) | 12      | GND                                 |
| 4       | GND  | 13      | Video input                         |
| 5       | N. C.                                      | 14      | Power supply input                  |
| 6       | Vertical deflection coil driver output (2) | 15      | Video amplifier output              |
| 7       | Vertical oscillation resistor pin          | 16      | Phase comparator output             |
| 8       | Vertical oscillation capacitor pin         | 17      | Horizontal oscillation resistor pin |
| 9       | Character-level control                    | 18      | Horizontal AFC output               |