

AN3296, AN3296S

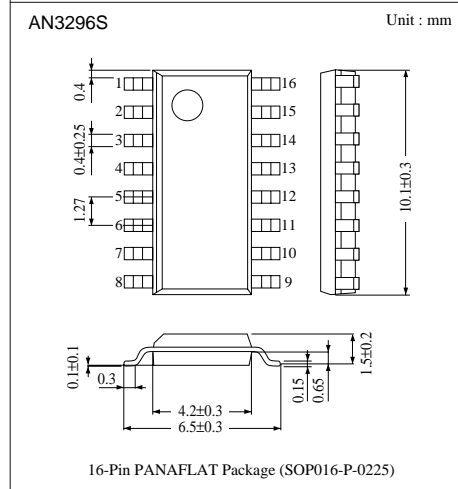
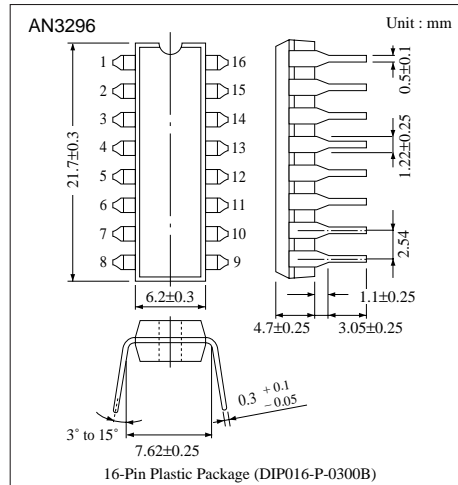
Synchronous Separation/AFC ICs

■ Overview

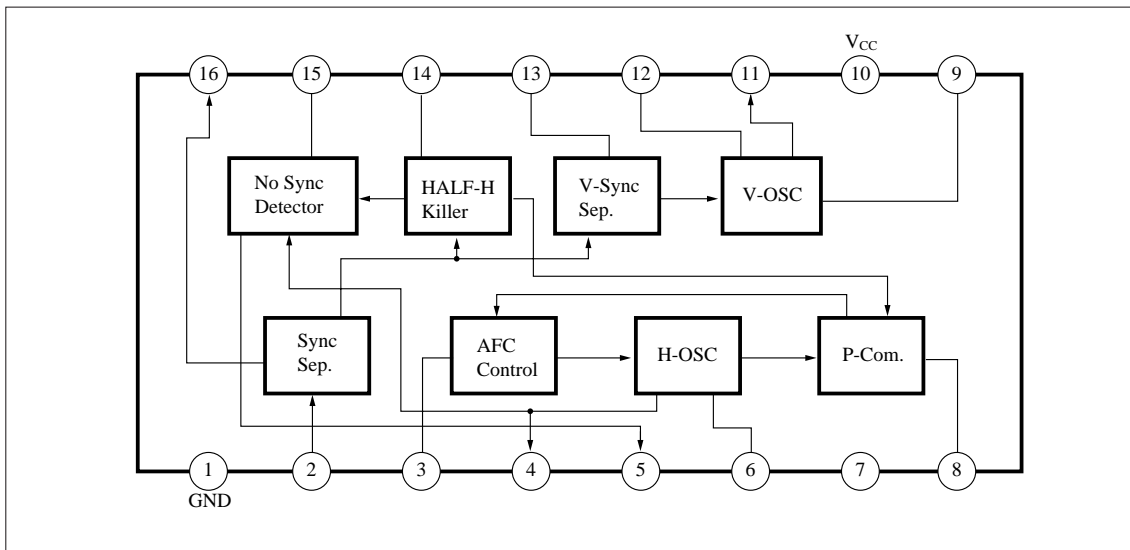
The AN3296 and AN3296S are the ICs designed for video sync. signal processing circuit.

■ Features

- Built-in horizontal and vertical sync. signal separator and generator.
- Adjustment-free horizontal AFC free-running frequency.
- Built-in sync. signal detector.



■ Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|-------------------------------|------------------|------------------|------|
| Supply voltage | V _{CC} | 6 | V |
| Power dissipation (Ta=70°C) | P _D | 80 | mW |
| Operating ambient temperature | T _{opr} | -20 to +70 | °C |
| Storage temperature | AN3296 | T _{stg} | °C |
| | AN3296S | | |

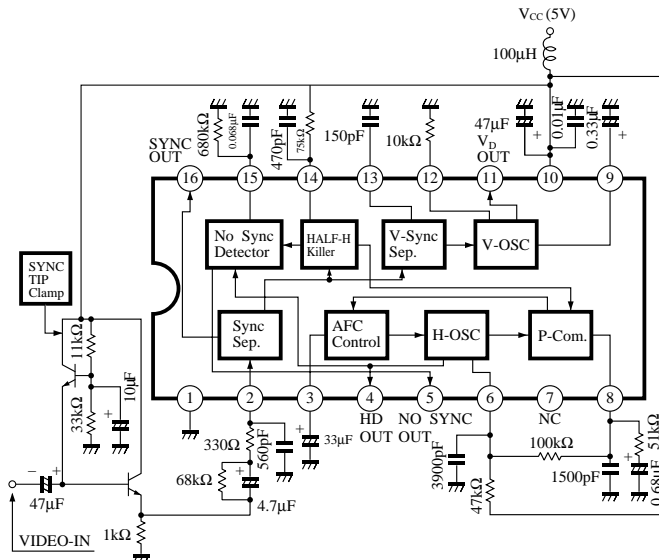
■ Recommended Operating Range (Ta =25°C)

| Parameter | Symbol | Range |
|--------------------------------|-----------------|--------------|
| Operating supply voltage range | V _{CC} | 4.5V to 5.5V |

■ Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Condition | min | typ | max | Unit |
|------------------------------|------------------|--------------------------------------|------|----------------------------------|------|-------|
| Total current | I _{tot} | V _{CC} = 5V | 3 | — | 9 | mA |
| SYNC output phase | φ _S | V _{CC} = 5V | 0 | — | 1 | μs |
| SYNC width | τ _S | V _{CC} = 5V | 3 | — | 5.5 | μs |
| V free-oscillation frequency | f _{VF} | At no input signal | 40 | — | 60 | Hz |
| V _D output phase | φ _{VD} | V _{CC} = 5V | 5 | — | 17 | μs |
| V _D width | τ _{VD} | V _{CC} = 5V | 0.4 | — | 1 | ms |
| SYNC DET output (1) | NSD ₁ | Input signal 0dB (1V _{PP}) | 0 | — | 0.5 | V |
| SYNC DET output (2) | NSD ₂ | Input signal -25dB | 4.5 | — | 5 | V |
| H free-oscillation frequency | f _{HF} | At no input signal | 6 | — | 8 | kHz |
| AFC control characteristic | β _{AFC} | Current = 0, 100μA | 100 | — | 150 | Hz/μA |
| AFC lock range | AFC | Input signal 0.3V _{PP} | 14.7 | — | 16.8 | kHz |
| H _D output phase | φ _{HD} | V _{CC} = 5V | -1.2 | — | -0.2 | μs |
| H _D width | τ _{HD} | V _{CC} = 5V | 7.5 | — </td <td>10.5</td> <td>μs</td> | 10.5 | μs |

■ Application Circuit



Note) For external C (3900pF) and R (47kΩ) at the Pin6 use high-accuracy parts.
 Recommended parts (Model by PANASONIC) C : ECQP1H392GZ R : ERO-25CKF4702