

TDA2522/TDA2523



TV Circuits

## TDA2522/TDA2523 Color Demodulation Combinations

### General Description

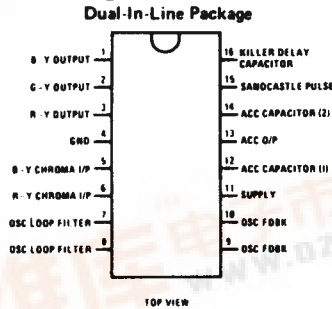
The TDA2522/TDA2523 are integrated synchronous demodulator combinations for colour television receivers incorporating the following features.

### Features

- 8.8 MHz oscillator followed by a divider giving two 4.4 MHz signals used as reference signals
- Keyed burst phase comparison for optimum noise behavior

- ACC detector and amplifier
- A color killer
- Two synchronous demodulators for the (B-Y) and (R-Y) signals
- Temperature compensated emitter follower outputs
- PAL switch and PAL flip-flop with internal identification
- Integrated capacitors in the symmetrical demodulators reduce unwanted carrier signals at the outputs

### Connection Diagram



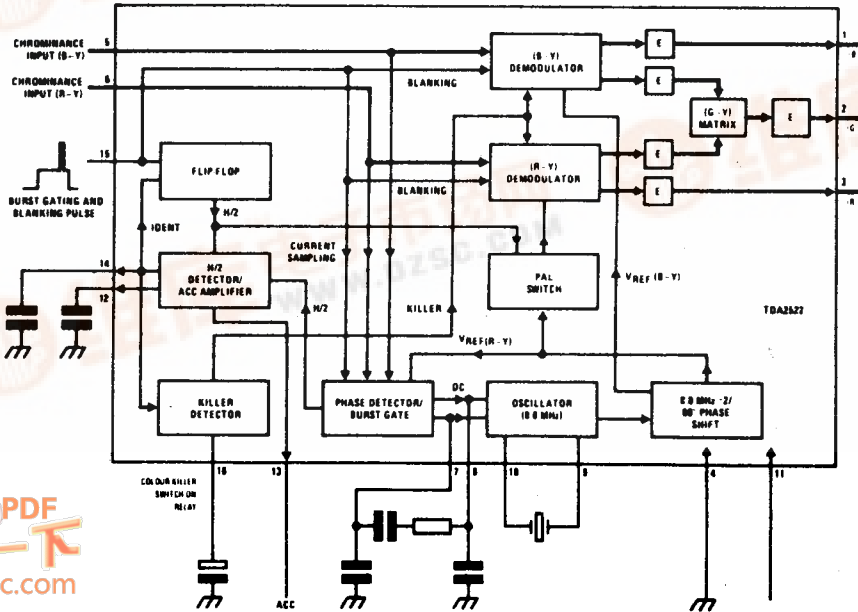
Dual-In-Line Package, Order Number TDA2522  
See NS Package N16A

Quad-In-Line Package, Order Number TDA2522Q  
See NS Package N16C

Dual-In-Line Package, Order Number TDA2523  
See NS Package N16A

Quad-In-Line Package, Order Number TDA2523Q  
See NS Package N16C

### Block Diagram



### Absolute Maximum Ratings

|  |                 |
|--|-----------------|
| V11-4, Supply Voltage                  | 14V             |
| PTOT, Total Power Dissipation (Note 3) | 600 mW          |
| TSTG, Storage Temperature              | -20°C to +125°C |
| TA, Operating Ambient Temperature      | -20°C to +60°C  |

### Electrical Characteristics V11-4 = 12V, TA = 25°C

| PARAMETER   | MIN  | TYP  | MAX | UNITS |
|---|------|------|-----|-------|
| Supply Current  |      | 40   |     | mA    |
| <b>Demodulator Section</b>  |      |      |     |       |
| Ratio of Demodulator Signals  |      | 1.78 |     |       |
| B-Y/R-Y, $\frac{V1-4}{V3-4}$  |      | 1.78 |     |       |
| G-Y/R-Y, $\frac{V2-4}{V3-4}$ (Note 1)   |      | 0.85 |     |       |
| G-Y/R-Y, $\frac{V2-4}{V3-4}$ (Note 2)   |      | 0.17 |     |       |
| Color Difference Output Signals, Peak-to-Peak Values  |      |      |     |       |
| R-Y, V3-4 (p-p)   | 2.40 |      |     | V     |
| G-Y, V2-4 (p-p)   | 1.35 |      |     | V     |
| B-Y, V1-4 (p-p)   | 3.00 |      |     | V     |
| <b>Impedance of Color Difference Signal Outputs</b>   |      |      |     |       |
| Z3-4  |      | 250  |     | Ω     |
| Z2-4  |      | 250  |     | Ω     |
| Z1-4  |      | 250  |     | Ω     |
| H/2 Ripple at R-Y Output (Peak-to-Peak Value)   |      |      | 10  | mV    |
| V15-4 Burst Keying Pulse (Positive-Going)   | 1.5  |      |     | V     |
| Chrominance Input Signal (Including Burst) Peak-to-Peak Value                               |      |      |     |       |
| R-Y, V6-4   |      | 500  |     | mV    |
| B-Y, V5-4   |      | 350  |     | mV    |
| <b>Reference Section</b>  |      |      |     |       |
| Phase Difference Between Reference Burst Signals for ±400 Hz Deviation of Crystal Frequency | -5   |      | 5   | Deg.  |
| Holding Range with Typical Crystal  |      | ±500 |     | Hz    |
| V12-4 ACC Reference Voltage   |      | 7    |     | V     |
| ACC Voltage with 0.5V Peak-to-Peak Burst  |      |      |     |       |
| V14-4 At Correct Phase  |      | 5.5  |     | V     |
| V14-4 With Zero Burst   |      | 7.0  |     | V     |
| V13-4 ACC Amplifier Output with 0.5V Peak-to-Peak Burst of Correct Phase                    |      |      | 1.5 | V     |
| RG-F Oscillator Input Resistance  |      | 270  |     | Ω     |
| RH-F Oscillator Output Resistance   |      | 200  |     | Ω     |

Note 1: The demodulators are driven by a chrominance signal of equal amplitude for the (R-Y) and the (B-Y) components. The phase of the (R-Y) chrominance signal equals the phase of the (R-Y) reference signal. The same holds for the (B-Y) signals.

Note 2: As under note 1, but the phase of the (R-Y) reference signal reversed.

Note 3: For operation in ambient temperatures above 25°C, the device must be derated based on a 150°C maximum junction temperature and a thermal resistance of 175°C/W junction to ambient.