

EL1881, EL1883 Evaluation Boards

Using EL1881, EL1883 Eval Boards

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General Description

The EL1881 eval boards simplify the evaluation of the EL1883, a sync separator for both standard and non-standard video signal. It provides composite sync, vertical sync, burst/back porch timing, and odd/even field detection. For detail application, please refer to the EL1883 data sheet.

Features

- Fixed 70mV slicing of video input levels from $0.5V_{P-P}$ to $2V_{P-P}$
- Low 1.5mA supply current
- Fully assembled and tested

Detailed Description

Value of R_{SET} and Low Pass Filter at the input

An external resistor R_{SET} that sets all internal timing. The demoboard is built with a 681k Ω resistor for standard NTSC and PAL video signals. If the input video signal is very noisy, a low pass filter is required at pin 2. In this case, $R_F = 100$ and $C_F = 570$ pF provide a 2.79MHz LPF. This sufficiently

attenuates 3.58MHz or 4.43MHz color burst and passes the approximately 15.7kHz sync signals without appreciable attenuation. If the input video signal is clear, then simply just short the R_F and open C_F on the board.

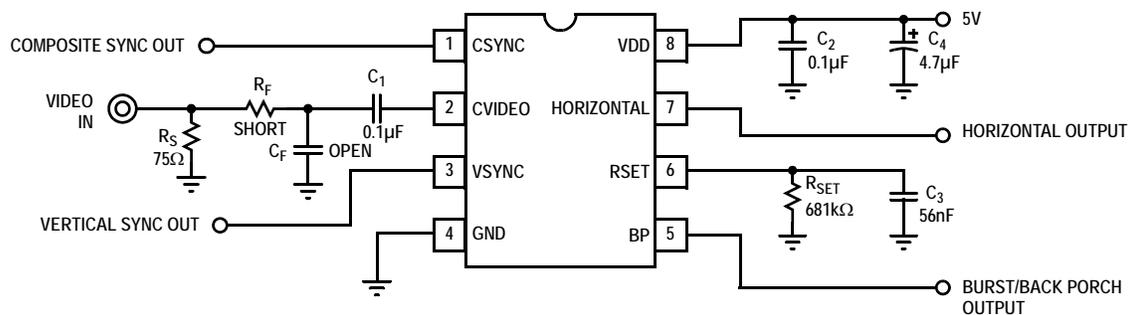
Layout Consideration

The PC board layout has been optimized for high-speed signals. Careful attention is given to the signal paths, power supply bypassing, and grounding. Small surface mount ceramic capacitors are placed as close as possible to the supply pins. To avoid noise problem, R_{SET} and C_{SET} need to be placed close to the device.

Evaluation Set Up

1. Use a +5V supply. Connect the +5V to VDD pin and power supply ground to the GND pin.
2. Apply a NTSC or PAL video signal to V_{IN} BNC connector through a 75 Ω cable.
3. Use a 10M Ω probe to check composite sync (CSYNC), vertical sync (VSYNC), burst/back porch timing (BP), and odd/even field detection (O/E).

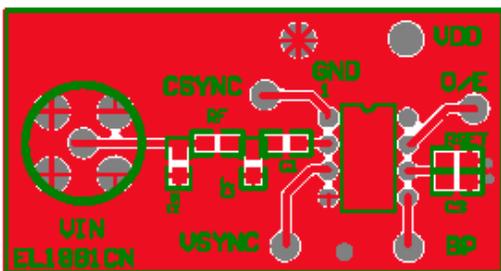
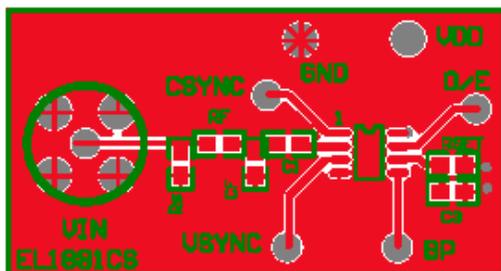
EL1883 Schematic



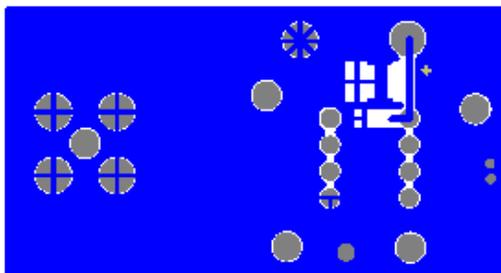
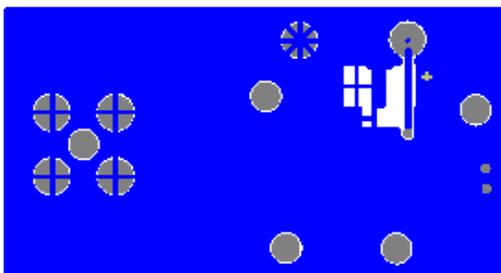
Bill of Materials

DESIGNATION	QTY	DESCRIPTION	MANUFACTURE	MFG. PART NUMBER
DUT	1	EL1883	Intersil	EL1883CS/CN
PCB	1	Printed Circuit Board, SOIC 8	DDI	EL1881 Demo Board
C1, C2	3	0.1 μ F, 10% Ceramic Capacitors	Vitramon	VJ0805Y104KXXA
C3	1	56nF, 10% Ceramic Capacitors		
C4	1	4.7 μ F, 10% Tantalum Capacitor	Vishay	293D475X9016B2T
R_S	1	75 Ω , 1%	Dale	CRCW080575R0
R_F	1	0 Ω , 1%	Dale	CRCW08050000
R_{SET}	1	681k Ω , 1%	Dale	
GND, VDD, CSYNC, VSYNC, O/E, BP	6	Printed Circuit Pin	Mill-max	3156-2-00-21-00-00-080
VIN	1	SMA 50 Ω Straight Jack Connector	Johnson Components	98F1467

Eval Board Layouts (CS and CN package)



TOP LAYER



BOTTOM LAYER

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Renesas Electronics America Inc.
1001 Murphy Ranch Road, Milpitas, CA 95035, U.S.A.
Tel: +1-408-432-8888, Fax: +1-408-434-5351

Renesas Electronics Canada Limited
9251 Yonge Street, Suite 8309 Richmond Hill, Ontario Canada L4C 9T3
Tel: +1-905-237-2004

Renesas Electronics Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K
Tel: +44-1628-651-700, Fax: +44-1628-651-804

Renesas Electronics Europe GmbH
Arcadiastrasse 10, 40472 Düsseldorf, Germany
Tel: +49-211-6503-0, Fax: +49-211-6503-1327

Renesas Electronics (China) Co., Ltd.
Room 1709 Quantum Plaza, No.27 ZhichunLu, Haidian District, Beijing, 100191 P. R. China
Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

Renesas Electronics (Shanghai) Co., Ltd.
Unit 301, Tower A, Central Towers, 555 Langao Road, Putuo District, Shanghai, 200333 P. R. China
Tel: +86-21-2226-0888, Fax: +86-21-2226-0999

Renesas Electronics Hong Kong Limited
Unit 1601-1611, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong
Tel: +852-2265-6688, Fax: +852-2886-9022

Renesas Electronics Taiwan Co., Ltd.
13F, No. 363, Fu Shing North Road, Taipei 10543, Taiwan
Tel: +886-2-8175-9600, Fax: +886-2-8175-9670

Renesas Electronics Singapore Pte. Ltd.
80 Bendemeer Road, Unit #06-02 Hyflux Innovation Centre, Singapore 339949
Tel: +65-6213-0200, Fax: +65-6213-0300

Renesas Electronics Malaysia Sdn.Bhd.
Unit 1207, Block B, Menara Amcorp, Amcorp Trade Centre, No. 18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: +60-3-7955-9390, Fax: +60-3-7955-9510

Renesas Electronics India Pvt. Ltd.
No.777C, 100 Feet Road, HAL 2nd Stage, Indiranagar, Bangalore 560 038, India
Tel: +91-80-67208700, Fax: +91-80-67208777

Renesas Electronics Korea Co., Ltd.
17F, KAMCO Yangjae Tower, 262, Gangnam-daero, Gangnam-gu, Seoul, 06265 Korea
Tel: +82-2-558-3737, Fax: +82-2-558-5338