

LVDS Interface ICs



# 56bit LVDS Receiver

## 8:56 DeSerializer

**BU7985KVT****●Description**

LVDS Interface IC of ROHM "Serializer" "Deserializer" operate from 8MHz to 150MHz wide clock range, and number of bits range is from 35 to 70. Data is transmitted seven times (7X) stream and reduce cable number by 3(1/3) or less. The ROHM's LVDS has low swing mode to be able to expect further low EMI.

**●Features**

- Wide dot clock range : Single(112MHz)/Dual(180MHz)(NTSC, VGA, SVGA, WXGA UXGA)
- Support clock frequency from 20MHz up to 112MHz.
- User programmable LVCMOS data output triggering timing  
by using either rising or falling edge of clock.
- User programmable LVCMOS data and clock output driving ability.
- Support Fail-Safe Hi-z Operation.
- 56bit LVDS transmitter is recommended to use BU7988KVT.

**●Applications**

Flat Panel Display

**●Precaution**

- This chip is not designed to protect from radioactivity.

Jun.2008

● Block Diagram

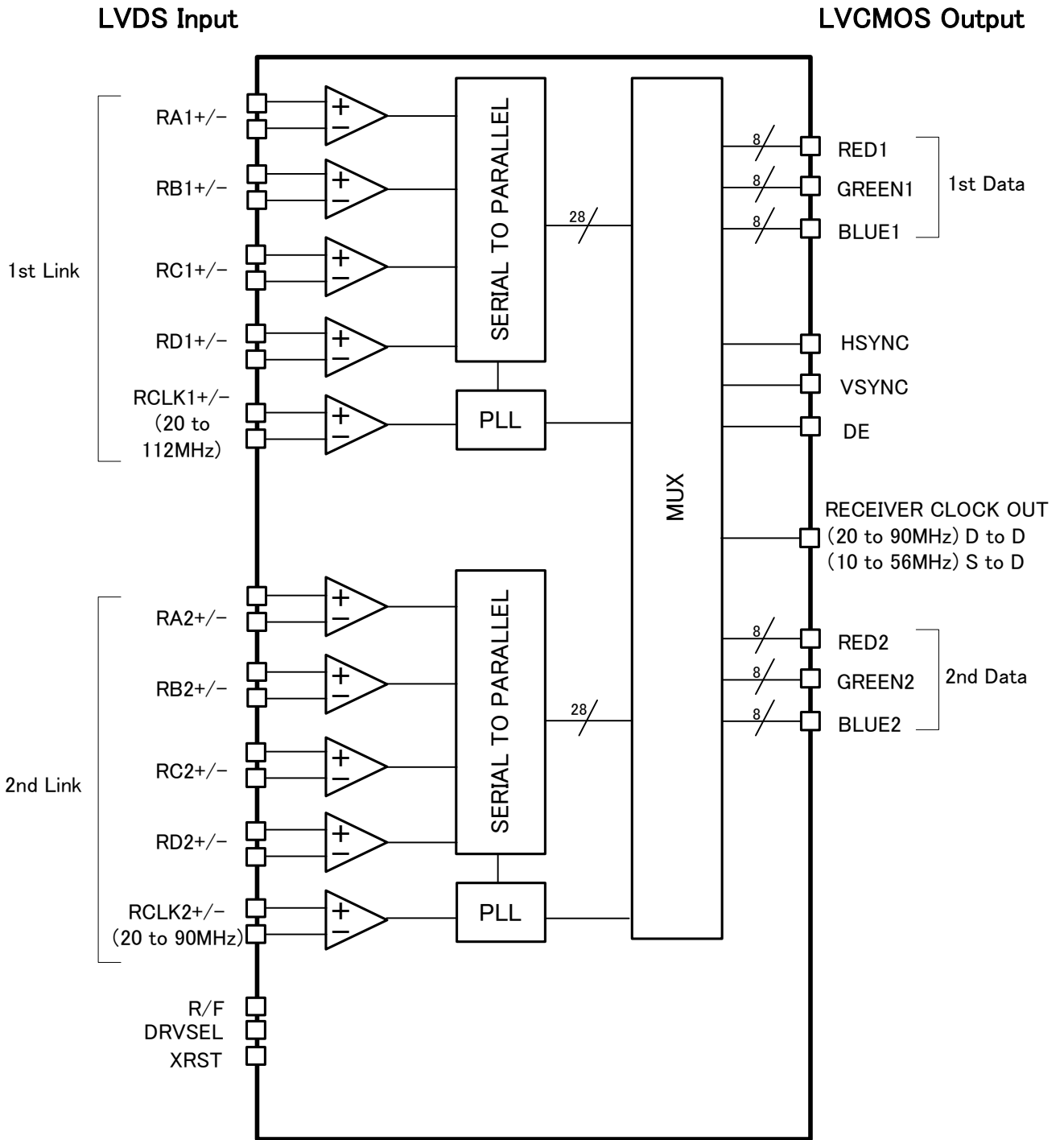


Figure-1 Block Diagram

● TQFP100V Package Outline and Specification

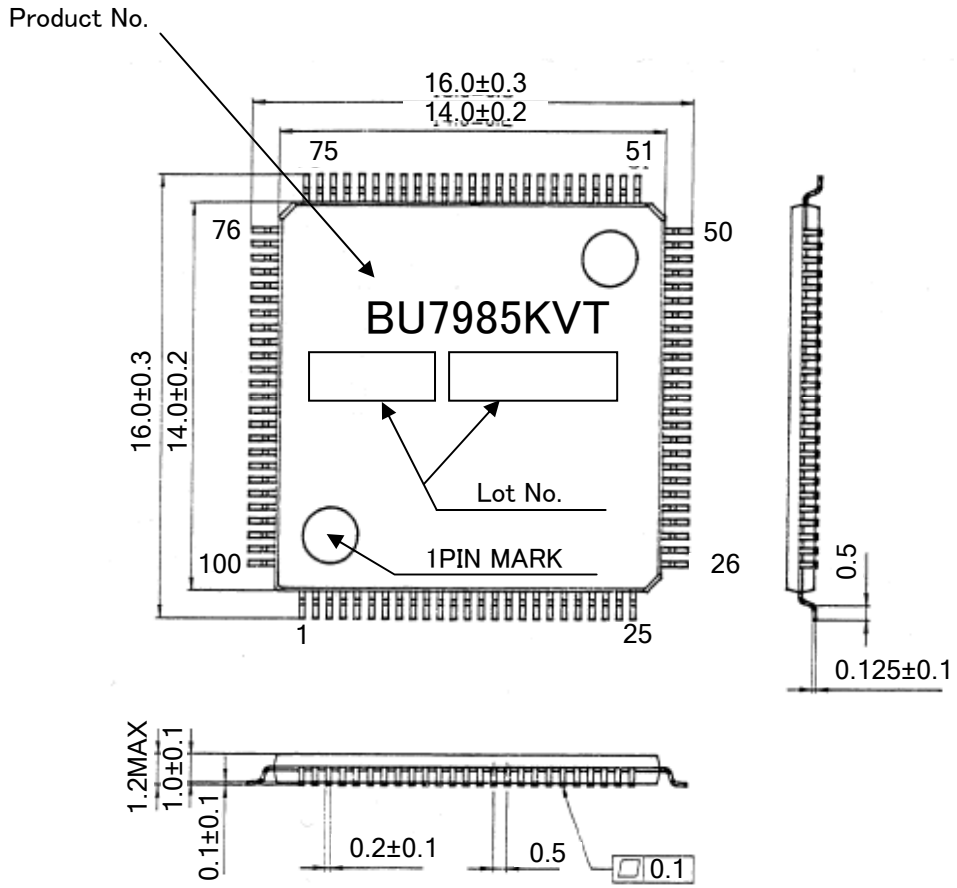


Figure-2 TQFP100V Package Outline and Specification



## ● Pin Description

Table 1 : Pin Description

Pin Name	Pin No.	Type	Descriptions															
RA1+, RA1-	78, 77	LVDS IN	LVDS Data Input for 1st Link. The 1st pixel input data when Dual Link. + : Positive input of LVDS data differential pair. - : Negative input of LVDS data differential pair.															
RB1+, RB1-	80, 79	LVDS IN																
RC1+, RC1-	83, 82	LVDS IN																
RD1+, RD1-	87, 86	LVDS IN																
RCLK1+, RCLK1-	85, 84	LVDS IN	LVDS Clock Input for 1st Link.															
RA2+, RA2-	90, 89	LVDS IN	LVDS Data Input for 2nd Link. These pins are disabled when Single Link. + : Positive input of LVDS data differential pair. - : Negative input of LVDS data differential pair.															
RB2+, RB2-	92, 91	LVDS IN																
RC2+, RC2-	95, 94	LVDS IN																
RD2+, RD2-	99, 98	LVDS IN																
RCLK2+, RCLK2-	97, 96	LVDS IN	LVDS Clock Input for 2nd Link.															
R17 ~ R10	52, 51, 50, 47, 46, 45, 44, 43	OUT	The 1st Pixel Data Outputs.															
G17 ~ G10	62, 61, 60, 59, 58, 55, 54, 53	OUT																
B17 ~ B10	72, 71, 68, 67, 66, 65, 64, 63	OUT																
R27 ~ R20	19, 18, 17, 14, 13, 12, 11, 10	OUT	The 2nd Pixel Data Outputs.															
G27 ~ G20	29, 26, 25, 24, 23, 22, 21, 20	OUT																
B27 ~ B20	39, 38, 37, 36, 35, 32, 31, 30	OUT																
DE	75	OUT	Data Enable Output.															
VSYNC	74	OUT	Vsync Output.															
HSYNC	73	OUT	Hsync Output.															
CLKOUT	40	OUT	Clock Output.															
DRVSEL	9	IN	Output Driverbility Select. L: Data output 2mA / Clock output 4mA H: Data output 4mA / Clock output 8mA															
R/F	8	IN	Output Clock Triggering Edge Select. H: Rising edge, L: Falling edge.															
MODE1,MODE0	6, 5	IN	Pixel Data Mode. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>MODE1</th> <th>MODE0</th> <th>Mode</th> </tr> </thead> <tbody> <tr> <td>L</td> <td>L</td> <td>Dual Link</td> </tr> <tr> <td>L</td> <td>H</td> <td>Single Link</td> </tr> <tr> <td>H</td> <td>L</td> <td>Dual Link With Fail-Safe Hiz</td> </tr> <tr> <td>H</td> <td>H</td> <td>Single Link With Fail-Safe Hiz</td> </tr> </tbody> </table>	MODE1	MODE0	Mode	L	L	Dual Link	L	H	Single Link	H	L	Dual Link With Fail-Safe Hiz	H	H	Single Link With Fail-Safe Hiz
MODE1	MODE0	Mode																
L	L	Dual Link																
L	H	Single Link																
H	L	Dual Link With Fail-Safe Hiz																
H	H	Single Link With Fail-Safe Hiz																

Pin Name	Pin No.	Type	Descriptions
XRST	4	IN	H: Normal operation, L: Power down (all outputs are pulled to ground)
VDD	15, 27, 33, 41, 48, 56, 69	Power	Power Supply Pins for LVCMOS outputs and digital circuitry.
GND	3, 7, 16, 28, 34, 42, 49, 57, 70	Ground	Ground Pins for LVCMOS outputs and digital circuitry.
LVDS VDD	81,93	Power	Power Supply Pins for LVDS inputs.
LVDS GND	76, 88, 100	Ground	Ground Pins for LVDS inputs.
PLL VDD	2	Power	Power Supply Pin for PLL circuitry.
PLL GND	1	Ground	Ground Pin for PLL circuitry.

## ● Electrical characteristics

### ■ Rating

Table 2 : Absolute maximum rating

Item	Symbol	Value		Unit
		Min.	Max.	
Supply voltage	VDD	-0.3	4.0	V
Input voltage	VIN	-0.3	VDD+0.3	V
Output voltage	VOOUT	-0.3	VDD+0.3	V
Storage temperature range	Tstg	-55	125	°C

Table 3 : Package Power

PACKAGE	Power Dissipation (mW)	De-rating (mW/°C)*1
TQFP100V	900	9.0
	1400*2	14.0*2
	2550*2	25.5*2

\*1:At temperature Ta >25°C

\*2:Package power when mounting on the PCB board.

The size of PCB board :70 × 70 × 1.6 (mm<sup>3</sup>) / 140 × 150 × 1.6 (mm<sup>3</sup>)

The material of PCB board : The FR4 glass epoxy board.(3% or less copper foil area)

(It is recommended to apply the above package power requirement to PCB board when the small swing input mode is used)

Table 4 : Recommended Operating Conditions

Parameter	Symbol	Rating			Units	Conditions
		Min	Typ	Max		
Supply Voltage	V <sub>DD</sub>	3.0	3.3	3.6	V	VDD,LVDSVDD,PLLVD
Operating Temperature Range	T <sub>opr</sub>	-20	-	85	°C	

## ■ DC characteristics

**Table 5 : LVCMOS DC Specifications** (VDD=3.0V~3.6V, Ta=-20°C~+85°C)

Symbol	Parameter	Rating			Units	Conditions
		Min	Typ	Max		
V <sub>IH</sub>	High Level Input Voltage	V <sub>DD</sub> × 0.8	-	V <sub>DD</sub>	V	
V <sub>IL</sub>	Low Level Input Voltage	GND	-	V <sub>DD</sub> × 0.2	V	
V <sub>OH</sub>	High Level Output Voltage	2.4	-	V <sub>DD</sub>	V	I <sub>OH</sub> = -2mA, -4mA (data) I <sub>OH</sub> = -4mA, -8mA (clock)
V <sub>OL</sub>	Low Level Output Voltage	0.0	-	0.4	V	I <sub>OL</sub> = 2mA, 4mA (data) I <sub>OL</sub> = 4mA, 8mA (clock)
I <sub>INC</sub>	Input Leak Current	-10	-	+10	μA	0V ≤ V <sub>IN</sub> ≤ V <sub>DD</sub>
I <sub>OZ</sub>	Output Leak Current	-10	-	+10	μA	Output=Hiz, 0V ≤ V <sub>OUT</sub> ≤ V <sub>DD</sub>

**Table 6 : LVDS Receiver DC Specifications** (VDD=3.0V~3.6V, Ta=-20°C~+85°C)

Symbol	Parameter	Rating			Units	Conditions
		Min	Typ	Max		
V <sub>TH</sub>	Differential Input High Threshold	-	-	100	mV	V <sub>OC</sub> =1.2V
V <sub>TL</sub>	Differential Input Low Threshold	-100	-	-	mV	V <sub>OC</sub> =1.2V
I <sub>INL</sub>	Input Current	-20	-	+20	μA	V <sub>IN</sub> =2.4V/0V V <sub>DD</sub> =3.6



## ■ Supply Current

Table 7 : Supply Current (VDD=3.3V, Ta=25°C)

Symbol	Parameter	Rating			Units	Conditions	
		Min	Typ	Max			
I <sub>RCCG</sub>	Receiver supply current (Gray scale pattern)	-	88	-	mA	MODE[1:0]=L L, H L CL=8pF	f=90MHz
		-	62	-	mA	MODE[1:0]=L H, H H CL=8pF	f=112MHz
I <sub>RCCW</sub>	Receiver supply current (Checker pattern)	-	137	-	mA	MODE[1:0]=L L, H L CL=8pF	f=90MHz
		-	89	-	mA	MODE[1:0]=L H, H H CL=8pF	f=112MHz
I <sub>RCCS</sub>	Receiver Power Down Supply Current	-	-	10	μA	XRST=L	

## 256 Gray Scale Pattern

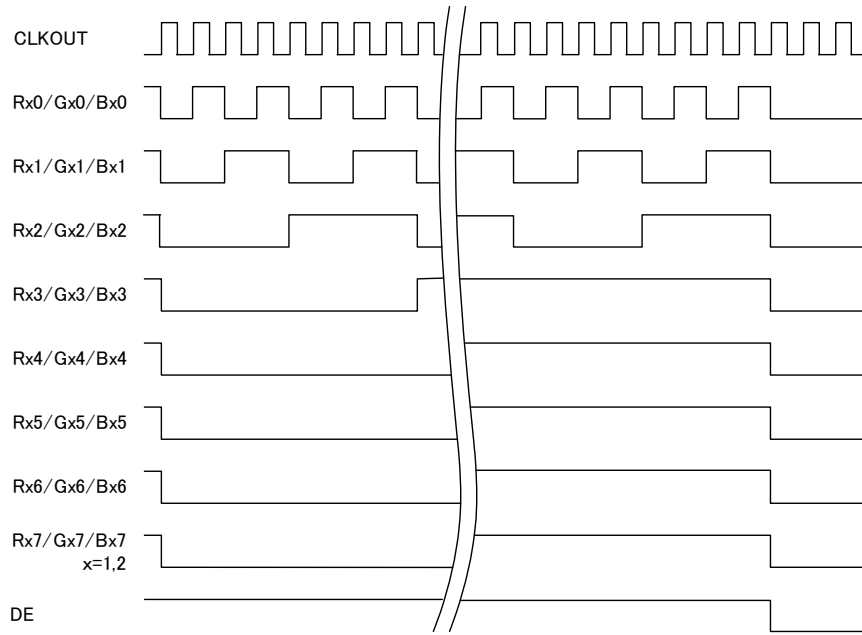


Figure-4 Gray scale pattern

## Double Checker Pattern

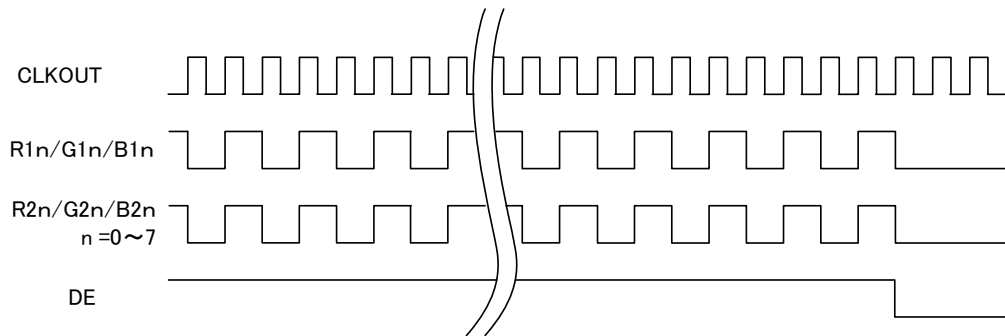


Figure-5 Checker pattern

## ■ AC characteristics

**Table 8 : Switching Characteristics** (VDD=3.0V~3.6V, Ta=-20°C~+85°C)

Symbol	Parameter		Min	Typ	Max	Units
$t_{RCP}$	CLK OUT Period	Dual-in / Dual-out	11.11	$t_{RCIP}$	50	ns
		Single-in / Dual-out	17.85	$2t_{RCIP}$	100	
$t_{RCH}$	CLKOUT High Time		-	$0.5t_{RCP}$	-	ns
$t_{RCL}$	CLKOUT Low Time		-	$0.5t_{RCP}$	-	ns
$t_{RS}$	LVCMOS Data Setup to CLKOUT		$0.3t_{RCP}$	-	-	ns
$t_{RH}$	LVCMOS data hold from CLKOUT		$0.3t_{RCP}$	-	-	ns
$t_{TLH}$	LVCMOS Low to High Transition Time		-	3.0	5.0	ns
$t_{THL}$	LVCMOS Low to Low Transition Time		-	3.0	5.0	
$t_{RIP1}$	Input Data Position0 ( $T_{RCIP} = 8.9ns$ )		-0.25	0.0	+0.25	ns
$t_{RIP0}$	Input Data Position1 ( $T_{RCIP} = 8.9ns$ )		$\frac{t_{RCIP}}{7} - 0.25$	$\frac{t_{RCIP}}{7}$	$2\frac{t_{RCIP}}{7} + 0.25$	ns
$t_{RIP6}$	Input Data Position2 ( $T_{RCIP} = 8.9ns$ )		$2\frac{t_{RCIP}}{7} - 0.25$	$2\frac{t_{RCIP}}{7}$	$2\frac{t_{RCIP}}{7} + 0.25$	ns
$t_{RIP5}$	Input Data Position3 ( $T_{RCIP} = 8.9ns$ )		$3\frac{t_{RCIP}}{7} - 0.25$	$3\frac{t_{RCIP}}{7}$	$3\frac{t_{RCIP}}{7} + 0.25$	ns
$t_{RIP4}$	Input Data Position4 ( $T_{RCIP} = 8.9ns$ )		$4\frac{t_{RCIP}}{7} - 0.25$	$4\frac{t_{RCIP}}{7}$	$4\frac{t_{RCIP}}{7} + 0.25$	ns
$t_{TOP3}$	Input Data Position5 ( $T_{RCIP} = 8.9ns$ )		$5\frac{t_{RCIP}}{7} - 0.25$	$5\frac{t_{RCIP}}{7}$	$5\frac{t_{RCIP}}{7} + 0.25$	ns
$t_{RIP2}$	Input Data Position6 ( $T_{RCIP} = 8.9ns$ )		$6\frac{t_{RCIP}}{7} - 0.25$	$6\frac{t_{RCIP}}{7}$	$6\frac{t_{RCIP}}{7} + 0.25$	ns
$t_{RRLL}$	Phase Lock Loop Set		-	-	10.0	ms
$t_{RCIP}$	CLKIN Period		8.9	-	50	ns
$t_{ck12}$	Skew Time between RCLK1 and RCLK2		-	-	$\pm 0.3t_{RCIP}$	ns

# ● AC Timing

## ■ LVCMOS

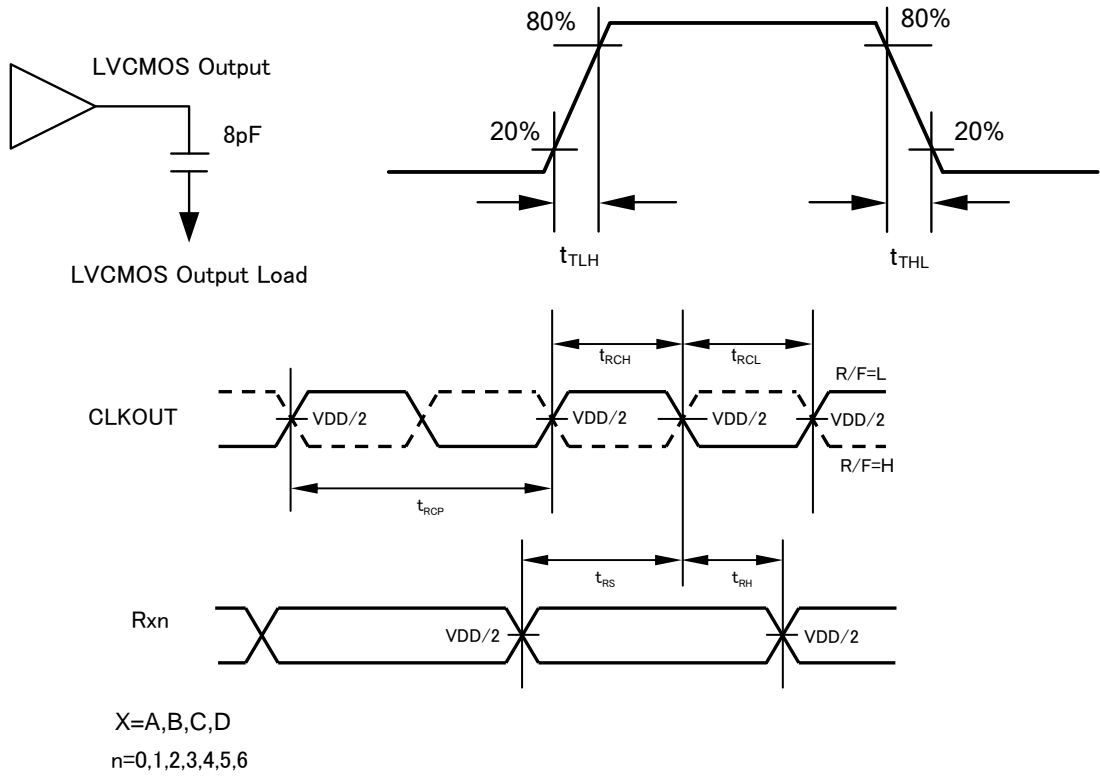


Figure-6 LVCMOS output timing

## ■ Phase-locked loops set time

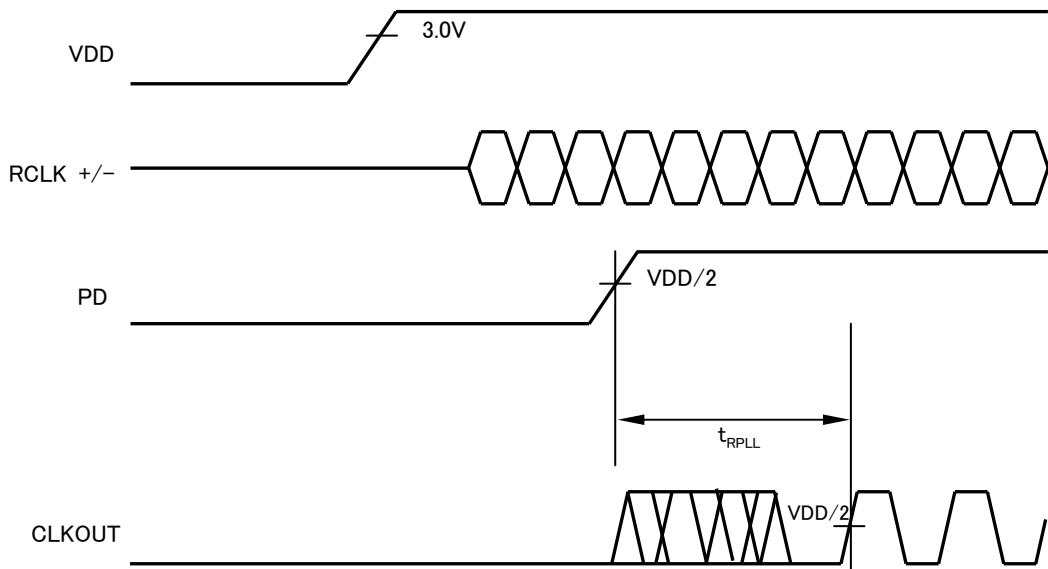


Figure-7 Phase-locked loops set time

## AC Timing Diagrams

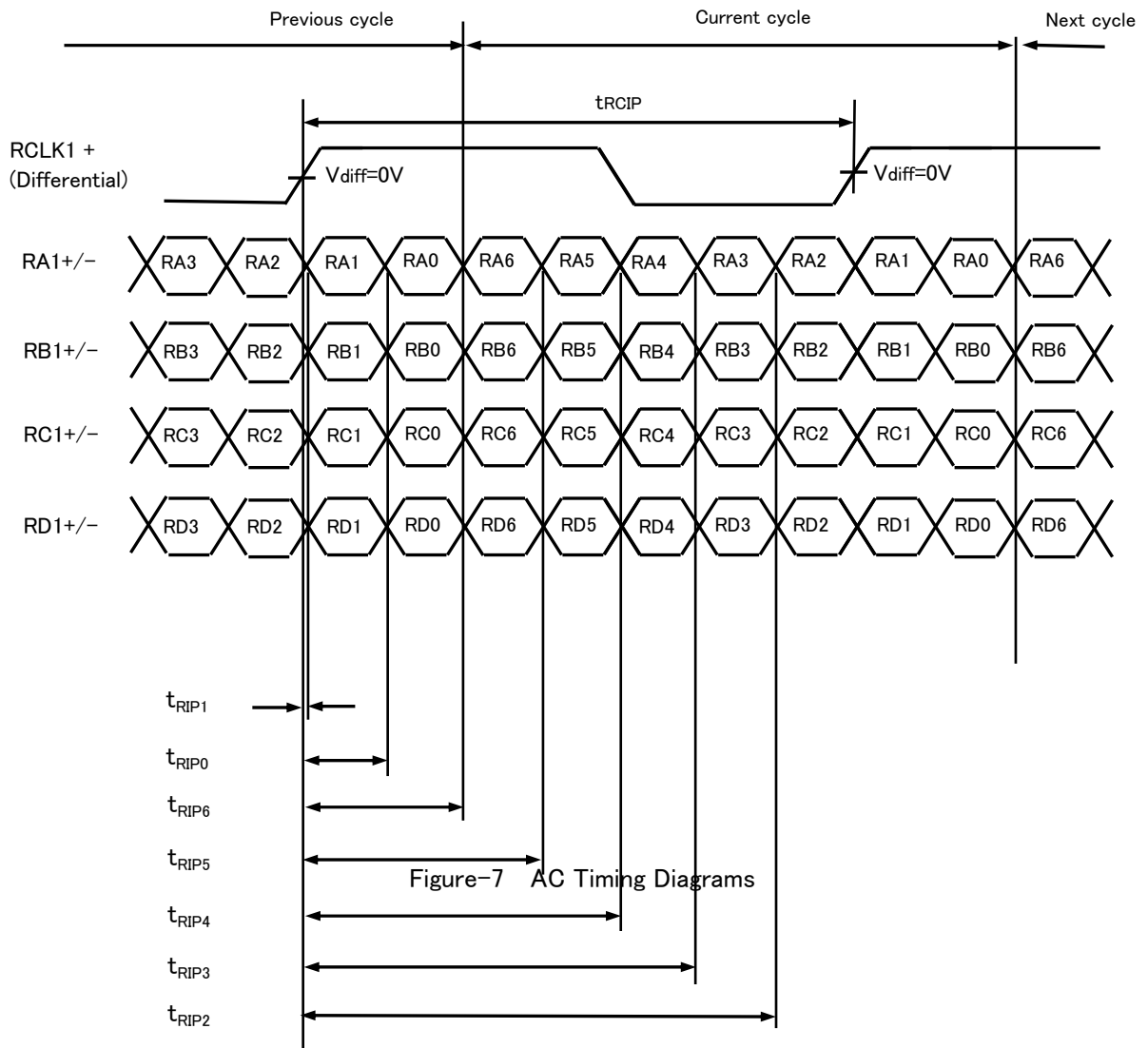
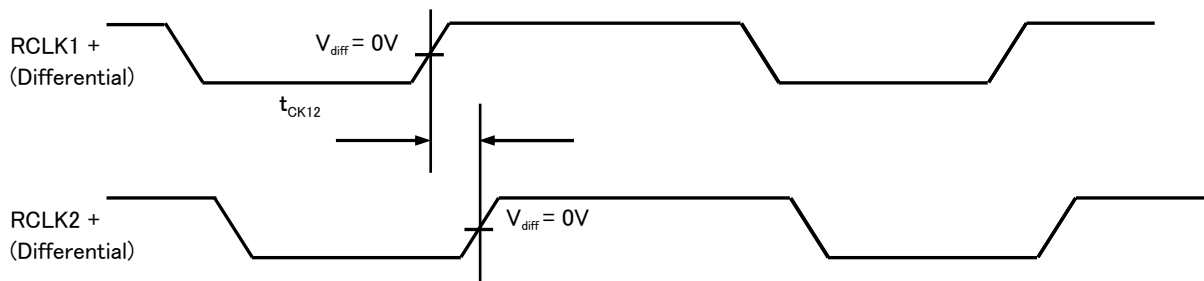


Figure-8 LVDS data and clock input timing



Note :  $V_{diff}=(R_{yx+})-(R_{yx-}), (RCLKx+)-(RCLKx-),$

● LVDS Data, Clock Input and Output Timing

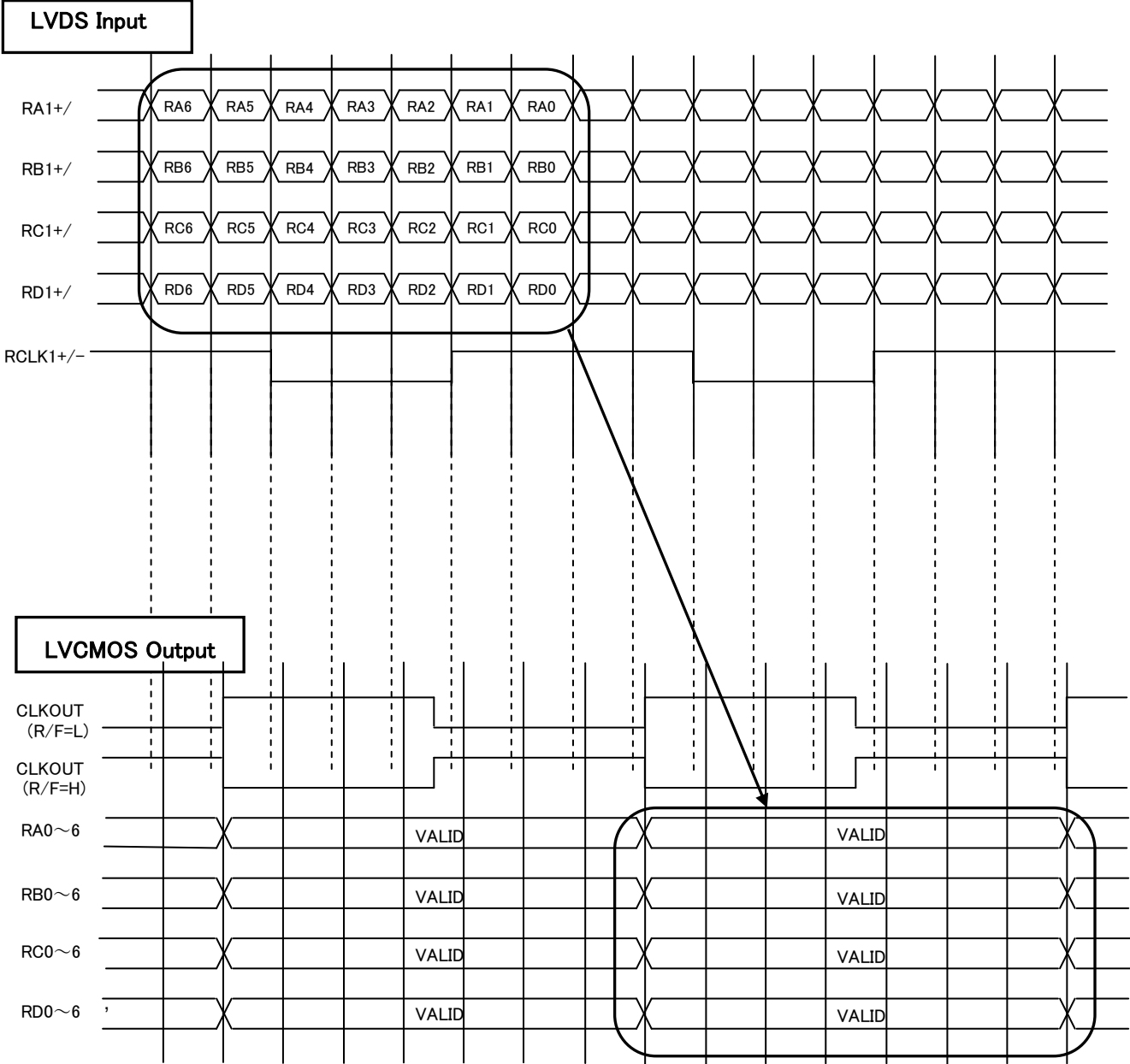


Figure-9 LVDS Data, Clock Input and Output Timing

● Pixel Map Table for Dual Link

Table 9: Pixel Map

1st Pixel Data				2nd Pixel Data			
TFT Panel Data			BU7985KVT LVCMOS Output Pin	TFT Panel Data			BU7985KVT LVCMOS Output Pin
	24Bit	18Bit			24Bit	18Bit	
LSB	R10	–	R10	LSB	R20	–	R20
	R11	–	R11		R21	–	R21
	R12	R10	R12		R22	R20	R22
	R13	R11	R13		R23	R21	R23
	R14	R12	R14		R24	R22	R24
	R15	R13	R15		R25	R23	R25
	R16	R14	R16		R26	R24	R26
MSB	R17	R15	R17	MSB	R27	R25	R27
LSB	G10	–	G10	LSB	G20	–	G20
	G11	–	G11		G21	–	G21
	G12	G10	G12		G22	G20	G22
	G13	G11	G13		G23	G21	G23
	G14	G12	G14		G24	G22	G24
	G15	G13	G15		G25	G23	G25
	G16	G14	G16		G26	G24	G26
MSB	G17	G15	G17	MSB	G27	G25	G27
LSB	B10	–	B10	LSB	B20	–	B20
	B11	–	B11		B21	–	B21
	B12	B10	B12		B22	B20	B22
	B13	B11	B13		B23	B21	B23
	B14	B12	B14		B24	B22	B24
	B15	B13	B15		B25	B23	B25
	B16	B14	B16		B26	B24	B26
MSB	B17	B15	B17	MSB	B27	B25	B27
	HSYNC	HSYNC	HSYNC		HSYNC	HSYNC	HSYNC
	VSYNC	VSYNC	VSYNC		VSYNC	VSYNC	VSYNC
	DE	DE	DE		DE	DE	DE

● CMOS Data Output Timing for Dual Link

Example : SXGA+(1400 × 1050)

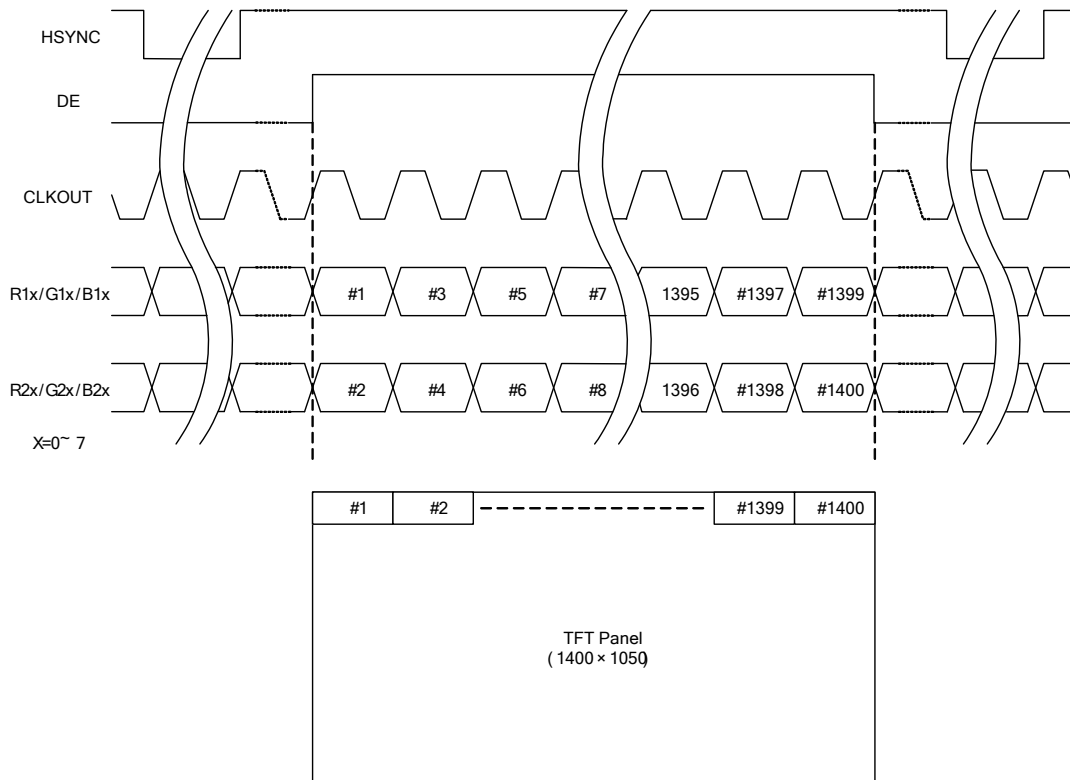


Figure-10 Data Output Timing for Dual Link

● CMOS Data Output Timing for Single Link

Example : SXGA+(1400 × 1050)

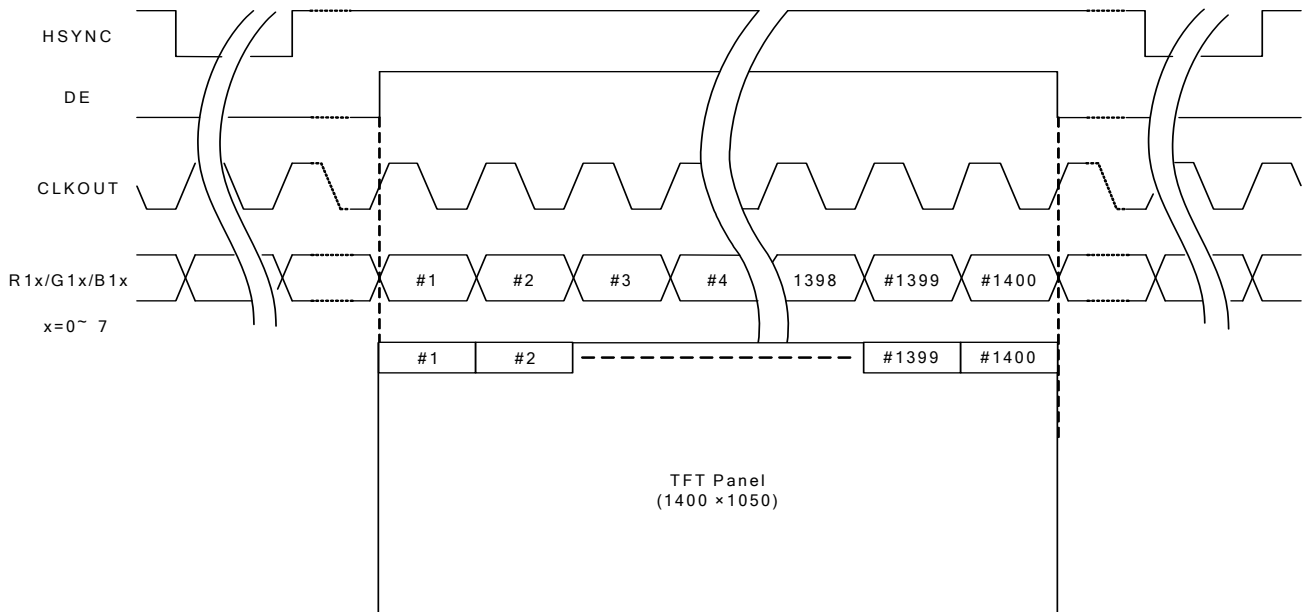


Figure-11 Data Output Timing for Dual Link



● LVDS Data Inputs Timing Diagrams in Dual Link  
(Dual-in / Dual-out Mode)

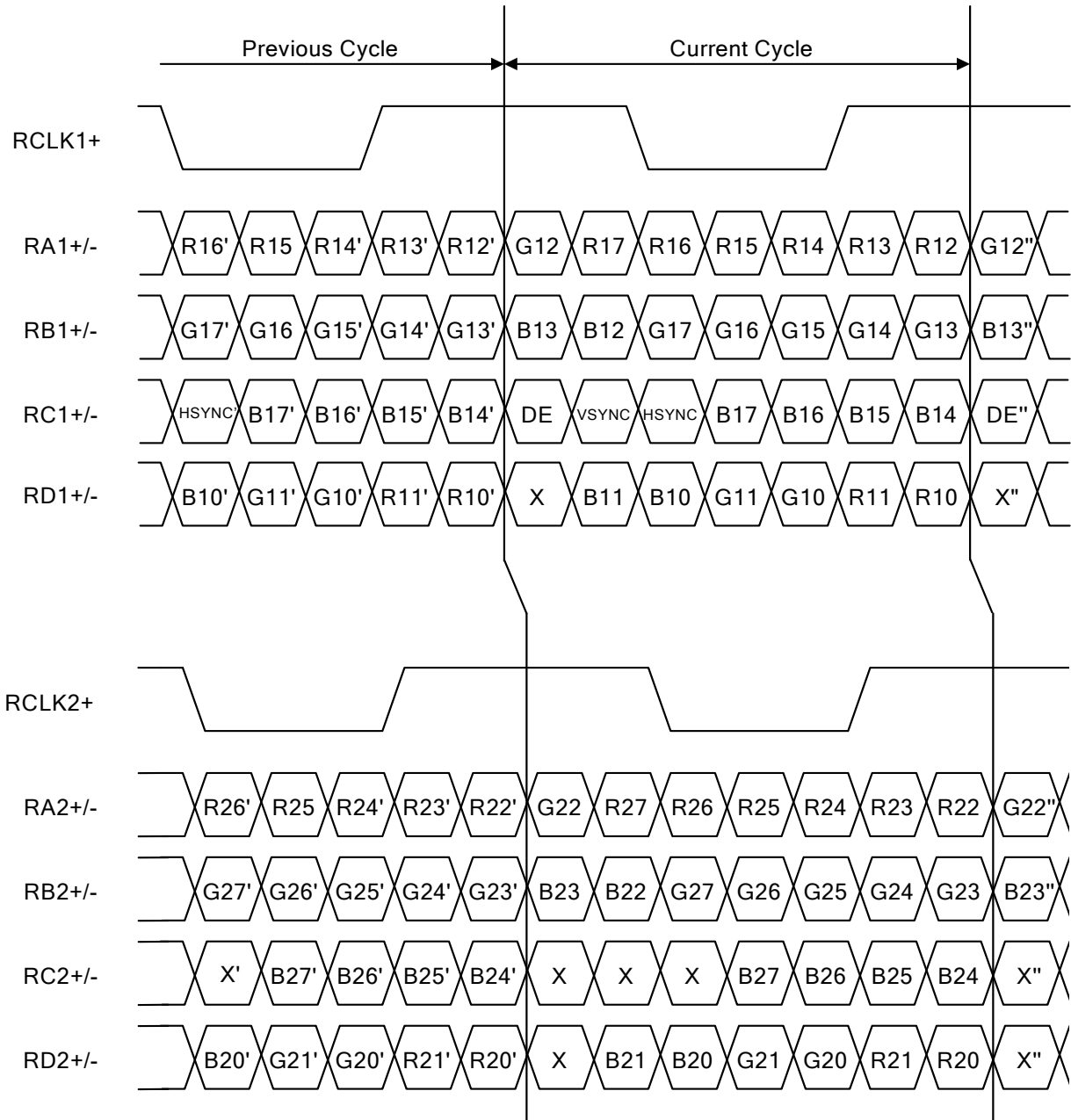


Figure-12 Data Input Timing for Dual Link

● **LVDS Data Inputs Timing Diagrams in Single Link**  
**(Single-in / Dual-out Mode)**

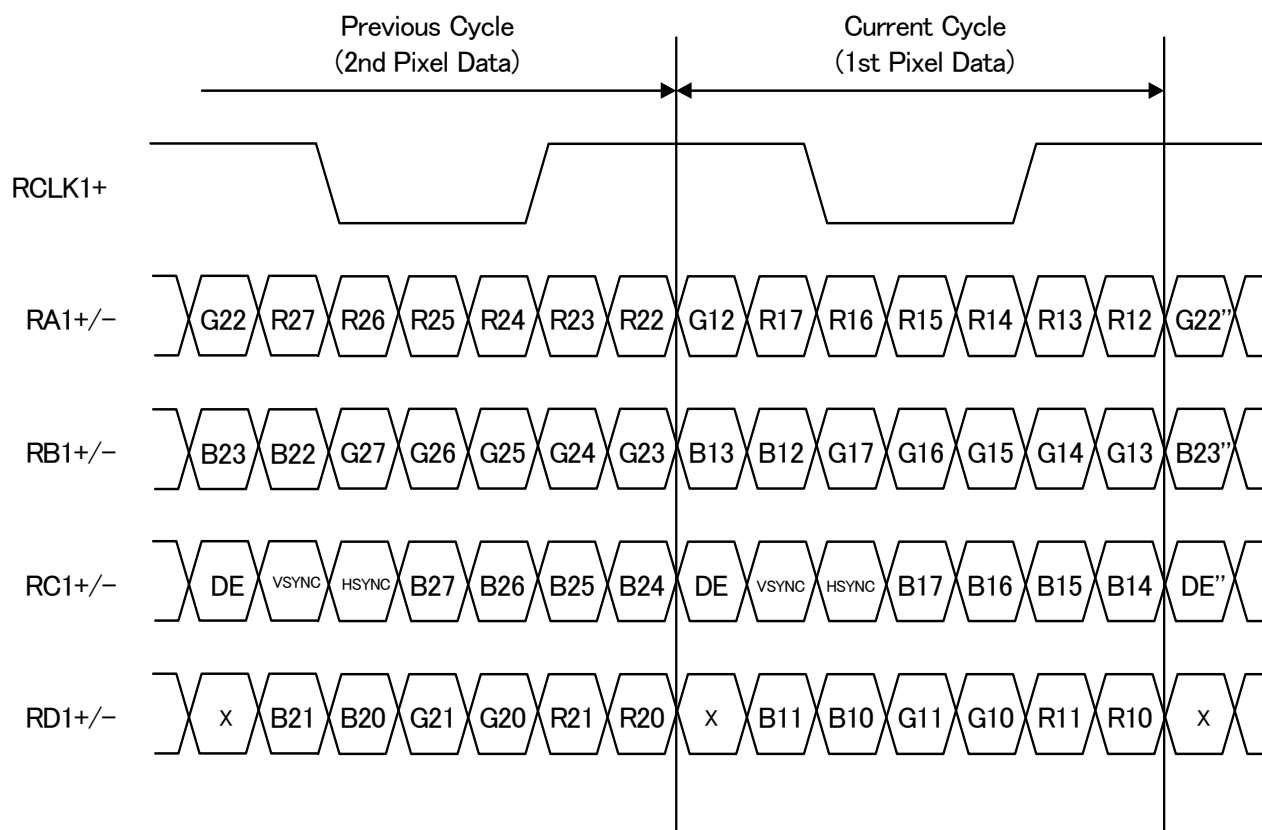


Figure-13 Data Input Timing for Single Link

● **Fail-Safe Hi-Z Operation**

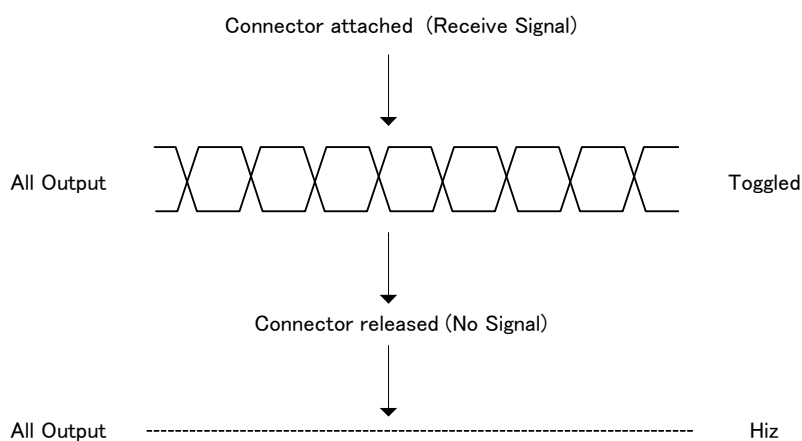


Figure-14 Fail-Sage Hi-Z Operation

## ●About the Power On Reset

Power On Reset is not mandatory for this device.

(The PD pin should be set to high level when Power On Reset procedure is not used.)

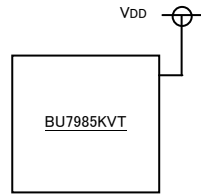


Figure-9 Terminal connection when Power On Reset is not used

However, Power On Reset procedure is strongly recommend for internal logic initialization by following two methods.

- ① The method of using CR circuit.
- ② The method of using external specific IC.

It is recommend to do enough examination for target application.

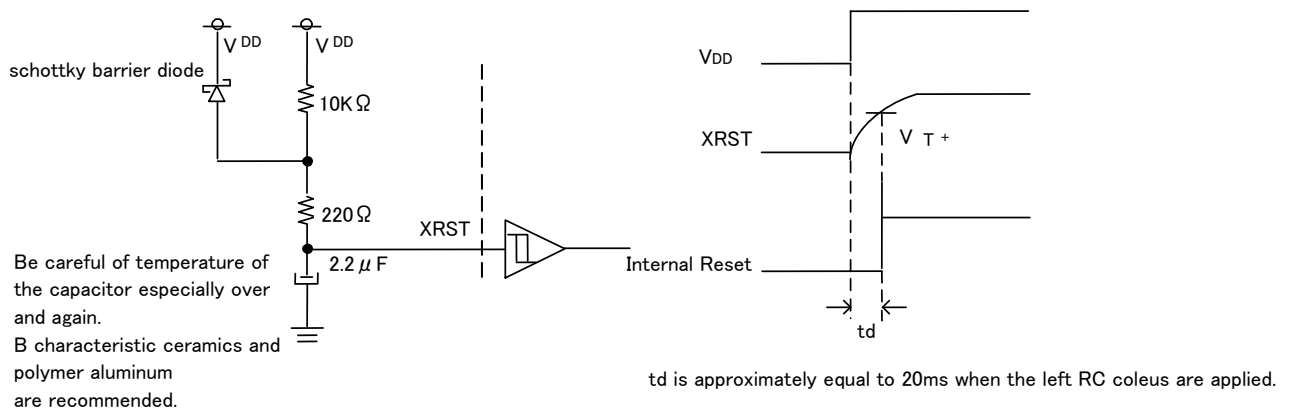


Figure-15 Power On Reset by external a CR circuit

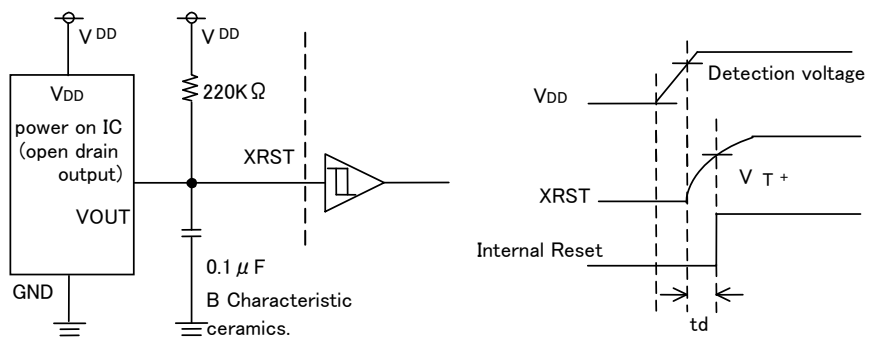
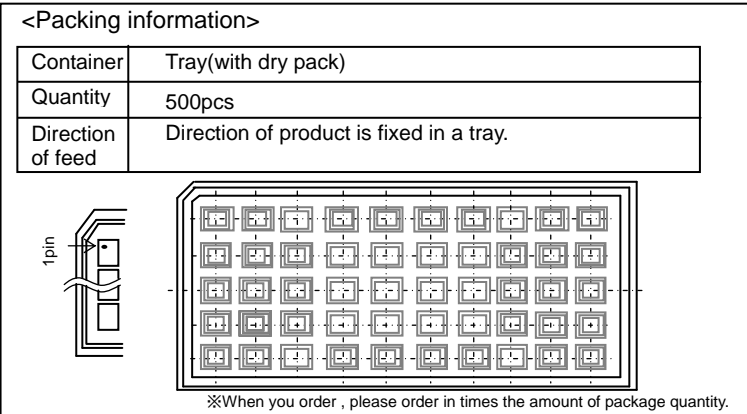
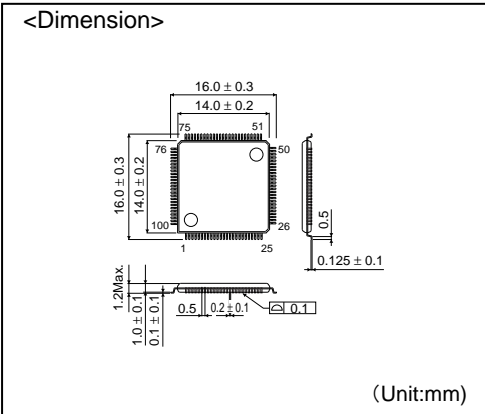


Figure-16 Power On Reset by specific IC

# TQFP100V



- The contents described herein are correct as of June, 2008
- The contents described herein are subject to change without notice. For updates of the latest information, please contact and confirm with ROHM CO.,LTD.
- Any part of this application note must not be duplicated or copied without our permission.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams and information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resale or otherwise dispose of the same, implied right or license to practice or commercially exploit any intellectual property rights or other proprietary rights owned or controlled by ROHM CO., LTD. is granted to any such buyer.
- The products described herein utilize silicon as the main material.
- The products described herein are not designed to be X ray proof.

The products listed in this catalog are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys). Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Contact us for further information about the products.

Excellence in Electronics

**ROHM CO., LTD.**

21, Saiin Mizosaki-cho, Ukyo-ku, Kyoto  
615-8585, Japan  
TEL: +81-75-311-2121 FAX: +81-75-315-0172  
URL: <http://www.rohm.com>

---

Published by  
LSI Business Promotion Dept.

San Diego TEL: +1-858-625-3630 FAX: +1-858-625-3670  
Atlanta TEL: +1-770-754-5972 FAX: +1-770-754-0691  
Boston TEL: +1-978-371-0382 FAX: +1-928-438-7164  
Chicago TEL: +1-847-368-1006 FAX: +1-847-368-1008  
Dallas TEL: +1-469-287-5366 FAX: +1-469-362-7973  
Denver TEL: +1-303-708-0908 FAX: +1-303-708-0858  
Detroit TEL: +1-248-348-9920 FAX: +1-248-348-9942  
Nashville TEL: +1-615-620-6700 FAX: +1-615-620-6702  
Mexico TEL: +52-33-3123-2001 FAX: +52-33-3123-2002  
Düsseldorf TEL: +49-2154-9210 FAX: +49-2154-921400  
Munich TEL: +49-8161-48310 FAX: +49-8161-483120  
Stuttgart TEL: +49-711-72723710 FAX: +49-711-72723720  
France TEL: +33-1-5697-3060 FAX: +33-1-5697-3080  
United Kingdom TEL: +44-1-908-306700 FAX: +44-1-908-235788  
Denmark TEL: +45-3694-4739 FAX: +45-3694-4789  
Barcelona TEL: +34-9375-24320 FAX: +34-9375-24410  
Hungary TEL: +36-1-4719338 FAX: +36-1-4719339  
Poland TEL: +48-22-5757213 FAX: +48-22-5757001  
Russia TEL: +7-95-980-6755 FAX: +7-95-937-8290  
Seoul TEL: +82-2-8182-700 FAX: +82-2-8182-715  
Masan TEL: +82-55-240-6234 FAX: +82-55-240-6236  
Dalian TEL: +86-411-8230-8549 FAX: +86-411-8230-8537  
Beijing TEL: +86-10-8525-2483 FAX: +86-10-8525-2489  
Tianjin TEL: +86-22-23029181 FAX: +86-22-23029183

Shanghai TEL: +86-21-6279-2727 FAX: +86-21-6247-2066  
Hangzhou TEL: +86-571-87658072 FAX: +86-571-87658071  
Nanjing TEL: +86-25-8689-0015 FAX: +86-25-8689-0393  
Ningbo TEL: +86-574-87654201 FAX: +86-574-87654208  
Qingdao TEL: +86-532-5779-312 FAX: +86-532-5779-653  
Suzhou TEL: +86-512-6807-1300 FAX: +86-512-6807-2300  
Wuxi TEL: +86-510-82702693 FAX: +86-510-82702992  
Shenzhen TEL: +86-755-8307-3008 FAX: +86-755-8307-3003  
Dongguan TEL: +86-769-8393-3320 FAX: +86-769-8398-4140  
Fuzhou TEL: +86-591-8801-8698 FAX: +86-591-8801-8690  
Guangzhou TEL: +86-20-8364-9796 FAX: +86-20-8364-9707  
Huizhou TEL: +86-752-205-1054 FAX: +86-752-205-1059  
Xiamen TEL: +86-592-238-5705 FAX: +86-592-239-8380  
Zhuhai TEL: +86-756-3232-480 FAX: +86-756-3232-460  
Hong Kong TEL: +852-2-740-6262 FAX: +852-2-375-8971  
Taipei TEL: +886-7-237-0881 FAX: +886-7-237-0881  
Kaohsiung TEL: +886-7-237-0881 FAX: +886-7-238-7332  
Singapore TEL: +65-6332-2322 FAX: +65-6332-5662  
Philippines TEL: +63-2-807-6872 FAX: +63-2-809-1422  
Thailand TEL: +66-2-254-4890 FAX: +66-2-256-6334  
Kuala Lumpur TEL: +60-3-7958-8355 FAX: +60-3-7958-8377  
Penang TEL: +60-4-2286453 FAX: +60-4-2286452  
Kyoto TEL: +81-75-365-1218 FAX: +81-75-365-1228  
Yokohama TEL: +81-45-476-2290 FAX: +81-45-476-2295

Shanghai TEL: +86-21-6279-2727 FAX: +86-21-6247-2066  
Hangzhou TEL: +86-571-87658072 FAX: +86-571-87658071  
Nanjing TEL: +86-25-8689-0015 FAX: +86-25-8689-0393  
Ningbo TEL: +86-574-87654201 FAX: +86-574-87654208  
Qingdao TEL: +86-532-5779-312 FAX: +86-532-5779-653  
Suzhou TEL: +86-512-6807-1300 FAX: +86-512-6807-2300  
Wuxi TEL: +86-510-82702693 FAX: +86-510-82702992  
Shenzhen TEL: +86-755-8307-3008 FAX: +86-755-8307-3003  
Dongguan TEL: +86-769-8393-3320 FAX: +86-769-8398-4140  
Fuzhou TEL: +86-591-8801-8698 FAX: +86-591-8801-8690  
Guangzhou TEL: +86-20-8364-9796 FAX: +86-20-8364-9707  
Huizhou TEL: +86-752-205-1054 FAX: +86-752-205-1059  
Xiamen TEL: +86-592-238-5705 FAX: +86-592-239-8380  
Zhuhai TEL: +86-756-3232-480 FAX: +86-756-3232-460  
Hong Kong TEL: +852-2-740-6262 FAX: +852-2-375-8971  
Taipei TEL: +886-7-237-0881 FAX: +886-7-237-0881  
Kaohsiung TEL: +886-7-237-0881 FAX: +886-7-238-7332  
Singapore TEL: +65-6332-2322 FAX: +65-6332-5662  
Philippines TEL: +63-2-807-6872 FAX: +63-2-809-1422  
Thailand TEL: +66-2-254-4890 FAX: +66-2-256-6334  
Kuala Lumpur TEL: +60-3-7958-8355 FAX: +60-3-7958-8377  
Penang TEL: +60-4-2286453 FAX: +60-4-2286452  
Kyoto TEL: +81-75-365-1218 FAX: +81-75-365-1228  
Yokohama TEL: +81-45-476-2290 FAX: +81-45-476-2295

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)