



# R2S11002AFT

## Video Analog Interface IC for FPD (Composite / YC / Audio chip)

This IC is an analog interface IC of video and audio signals at input of FPD (Flat Panel Display).

It consists of two chips, R2S11001FT(Component / RGB chip)  
and R2S11002AFT(Composite / YC / Audio chip).

Corresponds to multi-inputs for both video and audio signals.

### Specifications and futures

#### Composite / YC / Audio chip

##### Video System

1. Input SW Composite :7CH , YC :5CH
2. ADC output of independent 2CH
3. Monitor output of 1CH each for Composite (Y+C) and YC ,  
built-in 75 driver ,2Vpp output ,fc=14MHz
4. Pre low pass filter at preceding stage of ADC ,fc=12MHz and through
5. Level adjustment circuit built-in, each CH independently controlled, variable range  $\pm 30\%$
6. Mute circuit
7. Y/C-MIX circuit
8. S1/S2 identification
9. IIC interface (video + audio)

##### Audio

1. Input SW 10CH
2. Output of independent 3CH
3. Mute circuit
4. Built-in volume at 1 output line

##### Supply Voltage

1. 2 supplies of video 5V , audio 9V

### OUTLINE

TYPE No.	PACKAGE
R2S11002 AFT	TFP-1414-100Pin

最大定格値表 Table of Absolute Maximum Ratings

最大定格 (社外公表値) ( Ta= 25°C )  
 Maximum Ratings (Ta = 25°C)

Maximum Rating ( Values announced outside company )

No.	項目 Item	作業 Gr. 型名 Type 記号 SYM.	A	B	C	単位 Unit	注 Note
			R2S11002AFT				
1	最大電源電圧1 Maximum supply voltage1	Vcc Max1	5.5			V	44,48, 61,80pin
2	最大電源電圧2 Maximum supply voltage2	Vcc Max2	9.5			V	18,30pin
3	動作電源電圧1 Operating supply voltage1	Vopr1	4.75~5.25			V	44,48, 61,80pin
4	動作電源電圧2 Operating supply voltage2	Vopr2	8.5~9.5			V	18,30pin
5	保存温度 Storage temperature	Tstg	-40~125			°C	
6	動作温度 Operating temperature	Topr	-20~+75			°C	
7	最大許容損失 Maximum Power dissipation	Pd MAX	940mW			mW	
8	入力ピン許容印加電圧 Voltage applied to input leads	Vin	GND-0.3V~ VCC+0.3V			V	
9	熱抵抗 thermal resistance	$\theta_{j-c}$	13			°C/W	1

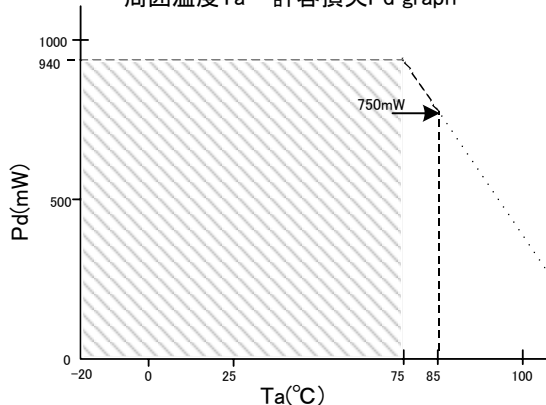
1.配線密度70%のガラスエポキシ基板に実装時  
 When mounted on a glass epoxy board with 70% wiring density.

材料

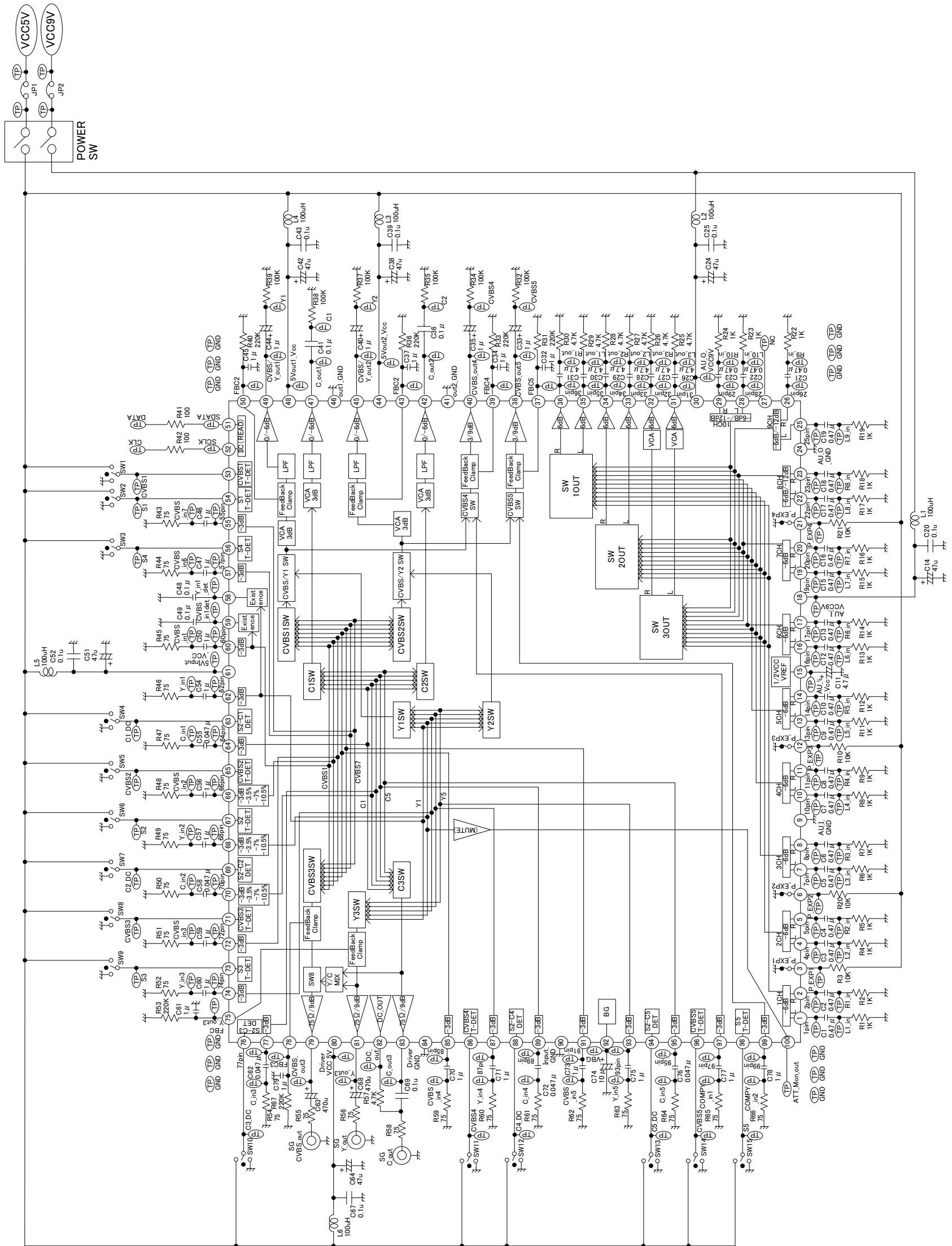
Materials etc.

- 1.封止材料: エポキシレジン  
 Package material: Epoxy resin
- 2.リード材料: 銅合金  
 Lead material: Cu alloy
- 3.リード処理: Ni/Pd/Auメッキ  
 Lead finish: Ni/Pd/Au plating

周囲温度Ta - 許容損失Pd graph



ブロック図及び接続図 Block Diagram



電氣的特性値表 Table of Electrical Characteristics

電氣的特性 (Vcc1= 5.0V ,Vcc2= 9.0V ,Ta= 25°C , )  
 Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			1	ICC VIDEO		5V Non-signal	83	104	125	mA	44/48/61/80		
			2	ICC AUDIO		9V Non-signal	23	29	35	mA	18/30		
			3										
			4	ICC VIDEO PS		5V Non-signal PowerSaveMode	18	23	28	mA	44/48/61/80		
			5	ICC AUDIO PS		9V Non-signal PowerSaveMode	6	8	10	mA	18/30		
			6										
			7	AUDIO入力Z		(-10u) IM	52	63	76	KΩ	1/2/4/5/7/8 10/11/13/14 16/17/19/20 22/23/25/26 28/29		
			8	VIDEO入力Z		(-5u) IM	85	100	115	KΩ	55/57/60/62 64/66/68/70 72/74/77/85 87/89/91/93 95/97/99		
			11										
			12										
			13										
			14										
			15										
			16										
			17										
			18										
			19										
			20										

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 Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			21	CH1>L1,R1OUT MUTE ON/OFFoffset		Non-signal 8b4	-20	0	20	mV	1→35 2→36		
			22	CH2>L2,R2OUT MUTE ON/OFFoffset		Non-signal 8b1	-20	0	20	mV	4→33 5→34		
			23	CH3→L3,R3OUT MUTE ON/OFFoffset		Non-signal 9b5b4	-20	0	20	mV	7→31 8→32		
			24	CH4>L1,R1OUT MUTE ON/OFFoffset		Non-signal 8b6	-20	0	20	mV	10→35 11→36		
			25	CH5>L2,R2OUT MUTE ON/OFFoffset		Non-signal 8b2b0	-20	0	20	mV	13→33 14→34		
			26	CH6>L3,R3OUT MUTE ON/OFFoffset		Non-signal 9b6b5	-20	0	20	mV	16→31 17→32		
			27	CH7→L1,R1OUT MUTE ON/OFFoffset		Non-signal 8b6b5b4	-20	0	20	mV	19→35 20→36		
			28	CH8>L2,R2OUT MUTE ON/OFFoffset		Non-signal 8b3	-20	0	20	mV	22→33 23→34		
			29	CH9>L3,R3OUT MUTE ON/OFFoffset		Non-signal 9b7b4	-20	0	20	mV	25→31 26→32		
			30	CH10→L1,R1OUT MUTE ON/OFFoffset		Non-signal 8b7b5	-20	0	20	mV	28→35 29→36		
			31										
			32	L/R1_SW Cross talk L/R1_in selection		Vin=1kHz、-14dBV *8(b4b1) Rg=1KΩ	-	-83	-78	dB	4→35 5→36		
			33	L/R2_SW Cross talk L/R3_in selection		Vin=1kHz、-14dBV *8(b6b1b0) Rg=1KΩ	-	-83	-78	dB	10→33 11→34		
			34	L/R3_SW Cross talk L/R5_in selection		Vin=1kHz、-14dBV *8(b6,b5) *9(b6,b4)Rg=1KΩ	-	-77	-72	dB	16→31 17→32		
			35										
			36										
			37										
			38										
			39										
			40										

電気的特性値表 Table of Electrical Characteristics

電気的特性 (Vcc1= 5.0V ,Vcc2= 9.0V ,Ta= 25°C , )

Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			41	P_EXP1 OPEN		RL=10Kにて5V 9b3 or 0b7,9b3	4.8	-	-	V	3		
			42	P_EXP1 LOW			-	-	0.6	V	3		
			43	P_EXP2 OPEN		RL=10Kにて5V 9b3 or 0b7,9b2	4.8	-	-	V	6		
			44	P_EXP2 LOW			-	-	0.6	V	6		
			45	P_EXP3 OPEN		RL=10Kにて5V 9b3 or 0b7,9b1	4.8	-	-	V	12		
			46	P_EXP3 LOW			-	-	0.6	V	12		
			47	P_EXP4 OPEN		RL=10Kにて5V 9b3 or 0b7,9b0	4.8	-	-	V	21		
			48	P_EXP4 LOW			-	-	0.6	V	21		
			49										
			50	DC OUT H		RL=100K 2b1 or 0b7,2b1	3.8	4.2	4.4	V	82		
			51	DC OUT M		RL=100K 2b0 or 0b7,2b0	1.7	2.0	2.3	V	82		
			52	DC OUT L		RL=100K 2b1b0 or 0b7,2b1b0	-	0.0	0.3	V	82		
			53										
			54	IIC HIGH			3.5	-	-	V	51/52		
			55	IIC LOW			-	-	0.5	V	51/52		
			56	IIC最大周波数 The maximum frequency			-	-	100	KHz	51/52		
			57	DATA吸い込み電流 Suction current			-	-	3	mA	51		
			58										
			59										
			60										

## 電氣的特性値表 Table of Electrical Characteristics

電氣的特性 (Vcc1= 5.0V , Vcc2= 9.0V , Ta= 25°C , )

Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			61	V端子検出VTH V_Terminal detection Vth		Read	1.5	-	2.5	V	53/65/ 71/86/ ⇒51 96		
			62	S端子検出VTH S_Terminal detection Vth		Read	1.5	-	2.5	V	54/67/ 73/56/ ⇒51 98		
			63	C端子検出L/M VTH C_Terminal detection L/M Vth		Read	0.8	-	1.4	V	63/69/ 76/88/ ⇒51 94		
			64	C端子検出M/H VTH C_Terminal detection M/H Vth		Read	2.4	-	3.5	V	63/69/ 76/88/ ⇒51 94		
			65										
			70										
			71	L1,R1_OUT 1_in		Vin=1kHz、6dBV 8b4	5.5	6	6.5	dBV	1→35 2→36		
			72	L1,R1_OUT 2_in		Vin=1kHz、6dBV 8b5	5.5	6	6.5	dBV	4→35 5→36		
			73	L1,R1_OUT 3_in		Vin=1kHz、6dBV 8b5b4	5.5	6	6.5	dBV	7→35 8→36		
			74	L1,R1_OUT 4_in		Vin=1kHz、6dBV 8b6	5.5	6	6.5	dBV	10→35 11→36		
			75	L1,R1_OUT 5_in		Vin=1kHz、6dBV 8b6b4	5.5	6	6.5	dBV	13→35 14→36		
			76	L1,R1_OUT 6_in		Vin=1kHz、6dBV 8b6b5	5.5	6	6.5	dBV	16→35 17→36		
			77	L1,R1_OUT 7_in		Vin=1kHz、6dBV 8b6b5b4	5.5	6	6.5	dBV	19→35 20→36		
			78	L1,R1_OUT 8_in		Vin=1kHz、6dBV 8b7	5.5	6	6.5	dBV	22→35 23→36		
			79	L1,R1_OUT 9_in		Vin=1kHz、6dBV 8b7b4	5.5	6	6.5	dBV	25→35 26→36		
			80	L1,R1_OUT 10_in		Vin=1kHz、6dBV 8b7b5	5.5	6	6.5	dBV	28→35 29→36		

## 電氣的特性値表 Table of Electrical Characteristics

電氣的特性 (Vcc1= 5.0V , Vcc2= 9.0V , Ta= 25°C , )

Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小	標準	最大				
			81	L2,R2_OUT 1_in		Vin=1kHz、6dBV 8b0	5.5	6	6.5	dBV	1→33 2→34		
			82	L2,R2_OUT 2_in		Vin=1kHz、6dBV 8b1	5.5	6	6.5	dBV	4→33 5→34		
			83	L2,R2_OUT 3_in		Vin=1kHz、6dBV 8b1b0	5.5	6	6.5	dBV	7→33 8→34		
			84	L2,R2_OUT 4_in		Vin=1kHz、6dBV 8b2	5.5	6	6.5	dBV	10→33 11→34		
			85	L2,R2_OUT 5_in		Vin=1kHz、6dBV 8b2b0	5.5	6	6.5	dBV	13→33 14→34		
			86	L2,R2_OUT 6_in		Vin=1kHz、6dBV 8b2b1	5.5	6	6.5	dBV	16→33 17→34		
			87	L2,R2_OUT 7_in		Vin=1kHz、6dBV 8b2b1b0	5.5	6	6.5	dBV	19→33 20→34		
			88	L2,R2_OUT 8_in		Vin=1kHz、6dBV(-6dB) 8b3,6b7	-0.5	0	0.5	dBV	22→33 23→34		
			89	L2,R2_OUT 9_in		Vin=1kHz、6dBV(-6dB) 8b3b0,7b7	-0.5	0	0.5	dBV	25→33 26→34		
			90	L2,R2_OUT 10_in		Vin=1kHz、6dBV(-6dB) 8b3b1 7b7	-0.5	0	0.5	dBV	28→33 29→34		
			91	L3,R3_OUT 1_in		Vin=1kHz、6dBV code0 9b4	5.5	6	6.5	dBV	1→31 2→32		
			92	L3,R3_OUT 2_in		Vin=1kHz、6dBV code0 9b5	5.5	6	6.5	dBV	4→31 5→32		
			93	L3,R3_OUT 3_in		Vin=1kHz、6dBV code0 9b5b4	5.5	6	6.5	dBV	7→31 8→32		
			94	L3,R3_OUT 4_in		Vin=1kHz、6dBV code0 9b6	5.5	6	6.5	dBV	10→31 11→32		
			95	L3,R3_OUT 5_in		Vin=1kHz、6dBV code0 9b6b4	5.5	6	6.5	dBV	13→31 14→32		
			96	L3,R3_OUT 6_in		Vin=1kHz、6dBV code0 9b6b5	5.5	6	6.5	dBV	16→31 17→32		
			97	L3,R3_OUT 7_in		Vin=1kHz、6dBV code0 9b6b5b4	5.5	6	6.5	dBV	19→31 20→32		
			98	L3,R3_OUT 8_in		Vin=1kHz、6dBV code0 9b7	5.5	6	6.5	dBV	22→31 23→32		
			99	L3,R3_OUT 9_in		Vin=1kHz、6dBV code0 9b7b4	5.5	6	6.5	dBV	25→31 26→32		
			100	L3,R3_OUT 10_in		Vin=1kHz、6dBV code0 9b7,b5	5.5	6	6.5	dBV	28→31 29→32		



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Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			101	L3,R3_OUT 1_in		Vin=1kHz、6dBV code64 9b6b4,Ab6	-16	-13	-10	dBV	1→31 2→32		
			102	L3,R3_OUT 1_in		Vin=1kHz、6dBV code127 9b4,Ab6~b0	-96	-76	-63	dBV	1→31 2→32		
			103	3_OUT L-R		Vin=1kHz、6dBV code0	-0.5	0	0.5	dB	1→31 2→32		
			104	3_OUT L-R		Vin=1kHz、6dBV code64 9b6b4,Ab6	-0.5	0	0.5	dB	1→31 2→32		
			105	3_OUT L-R		Vin=1kHz、6dBV code127 9b4,Ab6~b0	-1	0	1	dB	1→31 2→32		
			106	L1,R1_OUT 1_in THD		Vin=1kHz、-14dBV 8b4	-	0.005	0.04	%	1→35 2→36		
			107	L2,R2_OUT 5_in THD		Vin=1kHz、-14dBV 8b2b0	-	0.005	0.04	%	13→33 14→34		
			108	L3,R3_OUT 7_in THD		Vin=1kHz、-14dBV code0 9b6b5b4	-	0.014	0.1	%	19→31 20→32		
			109	L1,R1_OUT 8_in THD		Vin=1kHz、-14dBV 8b7	-	0.005	0.04	%	22→35 23→36		
			110	L2,R2_OUT 9_in THD		Vin=1kHz、-11dBV(-6dB) 8b3b0, 7b7	-	0.025	0.1	%	25→33 26→34		
			111	L3,R3_OUT 10_in THD		Vin=1kHz、-14dBV code0 9b7b5	-	0.014	0.1	%	28→31 29→32		
			112										
			113	L1,R1_OUT 1_in VoMAX		Vin=1kHz、THD=1% OUT Level 8b4	9	-	-	dBV	1→35 2→36		
			114	L2,R2_OUT 5_in VoMAX		Vin=1kHz、THD=1% OUT Level 8b2,b0	9	-	-	dBV	13→33 14→34		
			115	L3,R3_OUT 7_in VoMAX		Vin=1kHz、THD=1% OUT Level code0 9b6,b5,b4	9	-	-	dBV	19→31 20→32		
			116	L1,R1_OUT 8_in VoMAX		Vin=1kHz、THD=1% OUT Level 8b7	9	-	-	dBV	22→35 23→36		
			117	L2,R2_OUT 9_in VoMAX		Vin=1kHz、THD=1% OUT Level (-6dB) 8b3,b0,7b7	3	-	-	dBV	25→33 26→34		
			118	L3,R3_OUT 10_in VoMAX		Vin=1kHz、THD=1% OUT Level code0 9b7,b5	9	-	-	dBV	28→31 29→32		
			119										
			120										

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 Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			121	CVBS1 1_in		sin wave, 1.24Vpp, 200KHz 0b0	-1	0	1	dB	60→49		
			122	CVBS1 2_in		sin wave, 1.24Vpp, 200KHz 0b1	-1	0	1	dB	66→49		
			123	CVBS1 3_in		sin wave, 1.24Vpp, 200KHz LPF ON 0b1b0	-1	0	1	dB	72→49		
			124	CVBS1 4_in		sin wave, 1.24Vpp, 200KHz 0b2	-1	0	1	dB	85→49		
			125	CVBS1 5_in		sin wave, 1.24Vpp, 200KHz 0b2b0	-1	0	1	dB	91→49		
			126	CVBS1 6_in		sin wave, 1.24Vpp, 200KHz 0b2b1	-1	0	1	dB	57→49		
			127	CVBS1 7_in		sin wave, 1.24Vpp, 200KHz 0b2b1b0	-1	0	1	dB	55→49		
			128	CVBS1 1_in -6dB		sin wave, 1.24Vpp, 200KHz 0b5b0	-7	-6	-5	dB	60→49		
			129	Y_out1 1_in		sin wave, 1Vpp, 200KHz 0b3b0	-1	0	1	dB	62→49		
			130	Y_out1 2_in		sin wave, 1Vpp, 200KHz 0b3b0	-1	0	1	dB	68→49		
			131	Y_out1 3_in		sin wave, 1Vpp, 200KHz 0b3b1b0	-1	0	1	dB	74→49		
			132	Y_out1 4_in		sin wave, 1Vpp, 200KHz 0b3b2	-1	0	1	dB	87→49		
			133	Y_out1 5_in		sin wave, 1Vpp, 200KHz 0b3b2b0	-1	0	1	dB	93→49		
			134										
			135										
			136										
			137										
			138										
			139										
			140										

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電氣的特性 (Vcc1= 5.0V , Vcc2= 9.0V , Ta= 25°C , )

Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			141	C-out1 1_in		sin wave, 1Vpp, 200KHz 0b3b0	-1	0	1	dB	64→47		
			142	C-out1 2_in		sin wave, 1Vpp, 200KHz 0b3b1	-1	0	1	dB	70→47		
			143	C-out1 3_in		sin wave, 1Vpp, 200KHz LPF ON 0b3b1b0	-1	0	1	dB	77→47		
			144	C-out1 4_in		sin wave, 1Vpp, 200KHz 0b3b2	-1	0	1	dB	89→47		
			145	C-out1 5_in		sin wave, 1Vpp, 200KHz 0b3b2b0	-1	0	1	dB	95→47		
			146	C-out1 5_in -6dB		sin wave, 1Vpp, 200KHz 0b5b3b2b0	-7	-6	-5	dB	95→47		
			147										
			148	CVBS2 1_in		sin wave, 1.24Vpp, 200KHz 1b0	-1	0	1	dB	60→45		
			149	CVBS2 2_in		sin wave, 1.24Vpp, 200KHz 1b1	-1	0	1	dB	66→45		
			150	CVBS2 3_in		sin wave, 1.24Vpp, 200KHz LPF ON 1b1b0	-1	0	1	dB	72→45		
			151	CVBS2 4_in		sin wave, 1.24Vpp, 200KHz 1b2	-1	0	1	dB	85→45		
			152	CVBS2 5_in		sin wave, 1.24Vpp, 200KHz 1b2b0	-1	0	1	dB	91→45		
			153	CVBS2 6_in		sin wave, 1.24Vpp, 200KHz 1b2 b1	-1	0	1	dB	57→45		
			154	CVBS2 7_in		sin wave, 1.24Vpp, 200KHz 1b2b1b0	-1	0	1	dB	55→45		
			155	CVBS2 2_in -6dB		sin wave, 1.24Vpp, 200KHz 1b5b1	-7	-6	-5	dB	66→45		
			156	Y-out2 1_in		sin wave, 1Vpp, 200KHz 1b3b0	-1	0	1	dB	62→45		
			157	Y-out2 2_in		sin wave, 1Vpp, 200KHz 1b3b1	-1	0	1	dB	68→45		
			158	Y-out2 3_in		sin wave, 1Vpp, 200KHz 1b3b1b0	-1	0	1	dB	74→45		
			159	Y-out2 4_in		sin wave, 1Vpp, 200KHz 1b3b2	-1	0	1	dB	87→45		
			160	Y-out2 5_in		sin wave, 1Vpp, 200KHz 1b3b2b0	-1	0	1	dB	93→45		

## 電氣的特性値表 Table of Electrical Characteristics

電氣的特性 (Vcc1= 5.0V , Vcc2= 9.0V , Ta= 25°C , )  
 Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			161	C-out2 1_in		sin wave, 1Vpp, 200KHz 1b3b0	-1	0	1	dB	64→42		
			162	C-out2 2_in		sin wave, 1Vpp, 200KHz 1b3b1	-1	0	1	dB	70→42		
			163	C-out2 3_in		sin wave, 1Vpp, 200KHz LPF ON 1b3b1b0	-1	0	1	dB	77→42		
			164	C-out2 4_in		sin wave, 1Vpp, 200KHz 1b3b2	-1	0	1	dB	89→42		
			165	C-out2 5_in		sin wave, 1Vpp, 200KHz 1b3b2b0	-1	0	1	dB	95→42		
			166	C-out2 2_in -6dB		sin wave, 1Vpp, 200KHz 1b5b3b1	-7	-6	-5	dB	70→42		
			167										
			168	CVBS-out3 1_in		sin wave, 1.24Vpp, 200KHz 2b2	5.5	6	6.5	dB	60→79		
			169	CVBS-out3 2_in		sin wave, 1.24Vpp, 200KHz 2b3	5.5	6	6.5	dB	66→79		
			170	CVBS-out3 3_in		sin wave, 1.24Vpp, 200KHz 2b3b2	5.5	6	6.5	dB	72→79		
			171	CVBS-out3 4_in		sin wave, 1.24Vpp, 200KHz 2b4	5.5	6	6.5	dB	85→79		
			172	CVBS-out3 5_in		sin wave, 1.24Vpp, 200KHz 2b4b2	5.5	6	6.5	dB	91→79		
			173	CVBS-out3 6_in		sin wave, 1.24Vpp, 200KHz 2b4b3	5.5	6	6.5	dB	57→79		
			174	CVBS-out3 7_in		sin wave, 1.24Vpp, 200KHz 2b4b3b2	5.5	6	6.5	dB	55→79		
			175	CVBS-out3 Y1_in		sin wave, 1Vpp, 200KHz 2b5b4b3b2	5.5	6	6.5	dB	62→79		
			176	CVBS-out3 C1_in		sin wave, 1Vpp, 200KHz 2b5b4b3b2 75pin=1.45V	5.5	6	6.5	dB	64→79		
			177										
			178										
			179										
			180										

## 電氣的特性値表 Table of Electrical Characteristics

電氣的特性 (Vcc1= 5.0V ,Vcc2= 9.0V ,Ta= 25°C , )

Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			181	Y-out3 1_in		sin wave, 1Vpp, 200KHz 2b5	5.5	6	6.5	dB	62→81		
			182	Y-out3 2_in		sin wave, 1Vpp, 200KHz 2b6	5.5	6	6.5	dB	68→81		
			183	Y-out3 3_in		sin wave, 1Vpp, 200KHz 2b6b5	5.5	6	6.5	dB	74→81		
			184	Y-out3 4_in		sin wave, 1Vpp, 200KHz 2b7	5.5	6	6.5	dB	87→81		
			185	Y-out3 5_in		sin wave, 1Vpp, 200KHz 2b7b5	5.5	6	6.5	dB	93→81		
			186										
			187	C-out3 1_in		sin wave, 1Vpp, 200KHz 2b5	5.5	6	6.5	dB	64→83		
			188	C-out3 2_in		sin wave, 1Vpp, 200KHz 2b6	5.5	6	6.5	dB	70→83		
			189	C-out3 3_in		sin wave, 1Vpp, 200KHz 2b6b5	5.5	6	6.5	dB	77→83		
			190	C-out3 4_in		sin wave, 1Vpp, 200KHz 2b7	5.5	6	6.5	dB	89→83		
			191	C-out3 5_in		sin wave, 1Vpp, 200KHz 2b7b5	5.5	6	6.5	dB	95→83		
			192										
			193	CVBS/Y-out4 CVBS3_in		sin wave, 1.24Vpp, 200KHz 0b1b0	-0.5	0	0.5	dB	72→40		
			194	CVBS/Y-out4 COMP Y1_in		sin wave, 1Vpp, 200KHz 3b3	-0.5	0	0.5	dB	97→40		
			195	CVBS/Y-out4 CVBS3_in 6dB		sin wave, 1.24Vpp, 200KHz 0b1b03b1	5.5	6	6.5	dB	72→40		
			196										
			197	CVBS/Y-out5 Y3_in		sin wave, 1Vpp, 200KHz 1b3b1	-0.5	0	0.5	dB	68→38		
			198	CVBS/Y-out5 COMP Y2_in		sin wave, 1Vpp, 200KHz 3b2	-0.5	0	0.5	dB	99→38		
			199	CVBS/Y-out5 COMP Y2_in 6dB		sin wave, 1Vpp, 200KHz 3b2b0	5.5	6	6.5	dB	99→38		
			200										

## 電氣的特性値表 Table of Electrical Characteristics

電氣的特性 (Vcc1= 5.0V ,Vcc2= 9.0V ,Ta= 25°C , )  
Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			201	利得差OUT1 CVBS/Y Difference Gain		2_in	-0.5	0	0.5	dB			
			202	利得差OUT1 C/Y Difference Gain		2_in	-0.5	0	0.5	dB			
			203	利得差OUT2 CVBS/Y Difference Gain		2_in	-0.5	0	0.5	dB			
			204	利得差OUT2 C/Y Difference Gain		2_in	-0.5	0	0.5	dB			
			205	利得差OUT3 CVBS/Y Difference Gain		2_in	-0.5	0	0.5	dB			
			206	利得差OUT3 C/Y Difference Gain		2_in	-0.5	0	0.5	dB			
			207										
			208										
			209	ATT -3.9% CVBS2_in		ATT0基準 sin wave, 1.24Vpp 200KHz 2b3,3b6 ATT0 standard	-4.9	-3.9	-2.9	%	66→79		
			210	ATT -7.3% CVBS2_in		ATT0基準 sin wave, 1.24Vpp 200KHz 2b3,3b7 ATT0 standard	-8.3	-7.3	-6.3	%	66→79		
			211	ATT -10.8% CVBS2_in		ATT0基準 sin wave, 1.24Vpp 200KHz 2b3,3b7b6 ATT0 standard	-11.8	-10.8	-9.8	%	66→79		
			212	ATT -3.9% Y2_in		ATT0基準 sin wave, 1Vpp 200KHz 2b6,3b6 ATT0 standard	-4.9	-3.9	-2.9	%	68→81		
			213	ATT -7.3% Y2_in		ATT0基準 sin wave, 1Vpp 200KHz 2b6,3b7 ATT0 standard	-8.3	-7.3	-6.3	%	68→81		
			214	ATT -10.8% Y2_in		ATT0基準 sin wave, 1Vpp 200KHz 2b6,3b7b6 ATT0 standard	-11.8	-10.8	-9.8	%	68→81		
			215	ATT -3.9% C2_in		ATT0基準 sin wave, 1Vpp 200KHz 2b6,3b6 ATT0 standard	-4.9	-3.9	-2.9	%	70→83		
			216	ATT -7.3% C2_in		ATT0基準 sin wave, 1Vpp 200KHz 2b6,3b7 ATT0 standard	-8.3	-7.3	-6.3	%	70→83		
			217	ATT -10.8% C2_in		ATT0基準 sin wave, 1Vpp 200KHz 2b6,3b7b6 ATT0 standard	-11.8	-10.8	-9.8	%	70→83		
			218										
			219										
			220										

## 電氣的特性値表 Table of Electrical Characteristics

電氣的特性 (Vcc1= 5.0V , Vcc2= 9.0V , Ta= 25°C , )

Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			221	CVBS/Y1スルー利得 LPF OFF Frequency response through		12M/2MHz sin wave, 1.24Vpp 0b6b0	-1	0	1	dB	60→49		
			222	CVBS/Y1利得 Gain		2MHz sin wave, 1.24Vpp 0b6b0	-1	0	1	dB	60→49		
			223	CVBS/Y1周波数特性1 Frequency response		8M/2MHz sin wave, 1.24Vpp 0b6b0	-2.7	-1.5	-0.3	dB	60→49		
			224	CVBS/Y1周波数特性2 Frequency response		12M/2MHz sin wave, 1.24Vpp 0b6b0	-5.1	-3.6	-2.1	dB	60→49		
			225	CVBS/Y1周波数特性3 Frequency response		50M/2MHz sin wave, 1.24Vpp 0b6b0	-	-40	-	dB	60→49		
			226										
			227	C1スルー利得 LPF OFF Frequency response through		12MHz sin wave, 1Vpp 0b3b0	-1	0	1	dB	64→47		
			228	C1利得 Gain		2MHz sin wave, 1Vpp 0b6b3b0	-1	0	1	dB	64→47		
			229	C1周波数特性1 Frequency response		8M/2MHz sin wave, 1Vpp 0b6b3b0	-2.7	-1.5	-0.3	dB	64→47		
			230	C1周波数特性2 Frequency response		12M/2MHz sin wave, 1Vpp 0b6b3b0	-5.1	-3.6	-2.1	dB	64→47		
			231	C1周波数特性3 Frequency response		50M/2MHz sin wave, 1Vpp 0b6b3b0	-	-40	-	dB	64→47		
			232										
			233										
			234	CVBS/Y2 スルー 利得LPF OFF Frequency response through		12MHz sin wave, 1.24Vpp 1b1	-1	0	1	dB	66→45		
			235	CVBS/Y2利得 Gain		2MHz sin wave, 1.24Vpp 1b6b1	-1	0	1	dB	66→45		
			236	CVBS/Y2周波数特性1 Frequency response		8M/2MHz sin wave, 1.24Vpp 1b6b1	-2.7	-1.5	-0.3	dB	66→45		
			237	CVBS/Y2周波数特性2 Frequency response		12M/2MHz sin wave, 1.24Vpp 1b6b1	-5.1	-3.6	-2.1	dB	66→45		
			238	CVBS/Y2周波数特性3 Frequency response		50M/2MHz sin wave, 1.24Vpp 1b6b1	-	-40	-	dB	66→45		
			239										
			240										

## 電氣的特性値表 Table of Electrical Characteristics

電氣的特性 (Vcc1= 5.0V , Vcc2= 9.0V , Ta= 25°C , )

Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			241	C2 スルー利得 LPF OFF Frequency response through		12MHz sin wave, 1.24Vpp 1b3b1	-1	0	1	dB	70→42		
			242	C2 利得 Gain		2MHz sin wave, 1Vpp 1b6b3b1	-1	0	1	dB	70→42		
			243	C2 周波数特性1 Frequency response		8M/2MHz sin wave, 1Vpp 1b6b3b1	-2.7	-1.5	-0.3	dB	70→42		
			244	C2 周波数特性2 Frequency response		12M/2MHz sin wave, 1Vpp 1b6b3b1	-5.1	-3.6	-2.1	dB	70→42		
			245	C2 周波数特性3 Frequency response		50M/2MHz sin wave, 1Vpp 1b6b3b1	-	-40	-	dB	70→42		
			246										
			247	CVBS3周波数特性 Frequency response		10MHz/200kHz sin wave, 1.24Vpp 2b3	-1	0	1	dB	66→79		
			248	Y3周波数特性 Frequency response		10MHz/200kHz sin wave, 1Vpp 2b6	-1	0	1	dB	68→81		
			249	C3周波数特性 Frequency response		10MHz/200kHz sin wave, 1Vpp 2b6	-1	0	1	dB	70→83		
			250										
			251										
			252	CVBS/Y-out1 VCA MAX code127		1Vpp WHITE 100% 0b0b3,4b6~b0	1.16	1.3	1.46	Vpp	62→49		
			253	CVBS/Y-out1 VCA MIN code0		1Vpp WHITE 100% 0b3b0	0.63	0.7	0.78	Vpp	62→49		
			254	C-out1 VCA MAX code127		1Vpp Chroma 08b0b3,6b6~b0	1.16	1.3	1.46	Vpp	64→47		
			255	C-out1 VCA MIN code0		1Vpp Chroma 0b3b0	0.63	0.7	0.78	Vpp	64→47		
			256	CVBS/Y-out1 VCA MAX code127		1Vpp WHITE 100% 1b3b0,5b6~b0	1.16	1.3	1.46	Vpp	62→45		
			257	CVBS/Y-out1 VCA MIN code0		1Vpp WHITE 100% 1b3b0	0.63	0.7	0.78	Vpp	62→45		
			258	C-out1 VCA MAX code127		1Vpp Chroma 1b3b0,b6~b0	1.16	1.3	1.46	Vpp	64→42		
			259	C-out1 VCA MIN code0		1Vpp Chroma 1b3b0	0.63	0.7	0.78	Vpp	64→42		
			260										



## 電氣的特性値表 Table of Electrical Characteristics

電氣的特性 (Vcc1= 5.0V , Vcc2= 9.0V , Ta= 25°C , )

Electrical Characteristic

Gr**			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			261	CVBS1存在判別 最小検出レベル The minimum detection		WHITE 100%	0.1	-	0.25	Vpp	60→51		
			262	Y1存在判別 最小検出レベル The minimum detection		WHITE 100%	0.1	-	0.25	Vpp	62→51		
			263										
			264	CVBS1/Y1OUT voltage		Non-signal	1.3	1.5	1.7	V	49		
			265	C1OUT voltage		Non-signal	1.8	2.0	2.2	V	47		
			266	CVBS2/Y2OUT voltage		Non-signal	1.3	1.5	1.7	V	45		
			267	C2OUT voltage		Non-signal	1.8	2.0	2.2	V	42		
			268	CVBS3OUT voltage		Non-signal	1.3	1.5	1.7	V	79		
			269	Y3OUT voltage		Non-signal	1.4	1.6	1.8	V	81		
			270	C3OUT voltage		Non-signal	2.4	2.6	2.8	V	83		
			271	CVBS4OUT voltage		Non-signal	1.3	1.5	1.7	V	40		
			272	CVBS5OUT voltage		Non-signal	1.3	1.5	1.7	V	38		
			273										
			274	R1OUT voltage		Non-signal	4.3	4.5	4.7	V	36		
			275	L1OUT voltage		Non-signal	4.3	4.5	4.7	V	35		
			276	R2OUT voltage		Non-signal	4.3	4.5	4.7	V	34		
			277	L2OUT voltage		Non-signal	4.3	4.5	4.7	V	33		
			278	R3OUT voltage		Non-signal	4.3	4.5	4.7	V	32		
			279	L3OUT voltage		Non-signal	4.3	4.5	4.7	V	31		
			280										

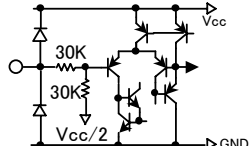
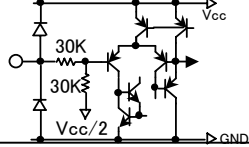
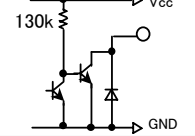
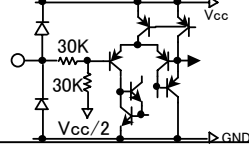
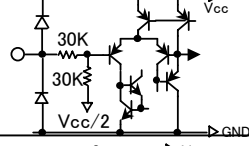
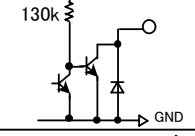
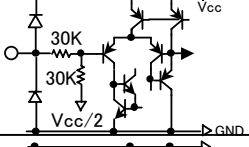
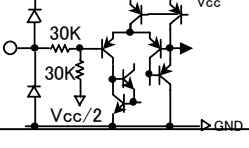
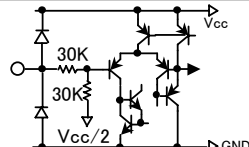
## 電氣的特性値表 Table of Electrical Characteristics

電氣的特性  $V_{cc1}= 5.0V$  ,  $V_{cc2}= 9.0V$  ,  $T_a= 25^{\circ}C$  ,

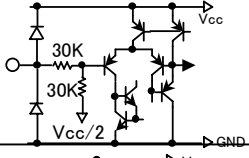
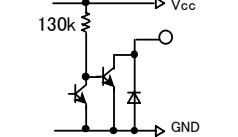
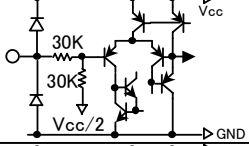
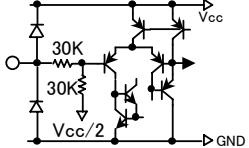
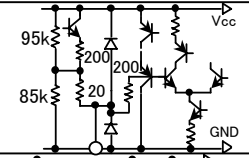
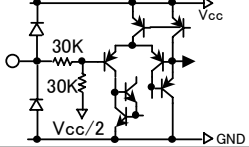
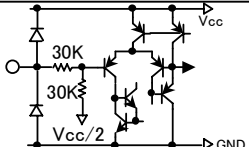
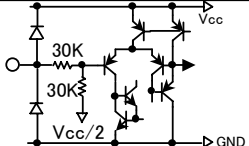
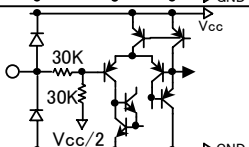
Electrical Characteristic

Gr			NO.	項目 Test Item	記号 Symbol	試験条件 Test Conditions	仕様 Specifications			単位 Unit	適用端子名 Application Terminal	測定回路 Measuring Terminal	注 Note
C	B	A					最小 Min	標準 Typ	最大 Max				
			281	CVBS1SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 1b1b2,0b0b1b2	-	-	-50	dB	57→49		
			282	Y1 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 1b1b3,0b0b3	-	-	-50	dB	68→49		
			283	C1 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 1b1b3,0b0b3	-	-	-50	dB	70→47		
			284	CVBS/Y1 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 1b1b3,0b0	-	-	-50	dB	68→49		
			285	CVBS2SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 0b1,1b0b1	-	-	-50	dB	66→45		
			286	Y2 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 0b1b3,1b0b1b3	-	-	-50	dB	68→45		
			287	C2 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 0b3b1,1b3b1b0	-	-	-50	dB	70→42		
			288	CVBS/Y2 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 0b1b3,1b0b1	-	-	-50	dB	68→45		
			289	CVBS3SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 0b2,2b2b3	-	-	-50	dB	85→79		
			290	Y3 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 0b2b3,2b5b6	-	-	-50	dB	87→81		
			291	C3 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 0b2b3,2b5b6	-	-	-50	dB	89→83		
			292	CVBS/Y3 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 2b7,2b2b3	-	-	-50	dB	87→79		
			293	CVBS/C3 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 2b7,2b2b3	-	-	-50	dB	89→79		
			294	CVBS4 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 0b0,3b3	-	-	-50	dB	60→40		
			295	CVBS5 SW Cross talk		sin wave, 1Vpp, 5MHz Rg=50 Ω 1b1,3b2	-	-	-50	dB	66→38		
			296										
			297										
			298										
			299										
			300										

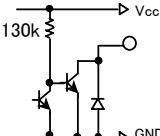
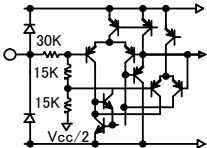
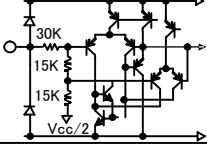
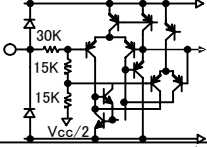
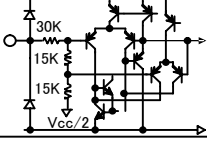
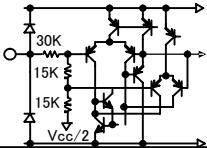
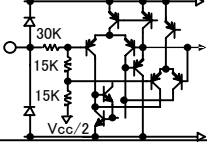
端子説明及び等価回路 Table of Pin Functions

Pin No.	ピン名称 Pin Name	波形 Wavefome ( )=MAX	IN及びOUT電圧 Input and Output Voltage	概要 Outline	IC入 OUT回路形式 Input and Output circuit of IC	備考 Note
1	Audio L1 IN	-14dBv (9dBv)	4.5V			
2	Audio R1 IN	-14dBv (9dBv)	4.5V			
3	P_EXP1	DC	5V/0V			
4	Audio L2 IN	-14dBv (9dBv)	4.5V			
5	Audio R2 IN	-14dBv (9dBv)	4.5V			
6	P_EXP2	DC	5V/0V			
7	Audio_L3 IN	-14dBv (9dBv)	4.5V			
8	Audio R3 IN	-14dBv (9dBv)	4.5V			
9	Audio Input_GND	-	0V		-	
10	Audio_L4 IN	-14dBv (9dBv)	4.5V			

端子説明及び等価回路 Table of Pin Functions

Pin No.	ピン名称 Pin Name	波形 Wavefome ( )=MAX	IN及びOUT電圧 Input and Output Voltage	概要 Outline	IC入 OUT回路形式 Input and Output circuit of IC	備考 Note
11	Audio R4 IN	-14dBv (9dBv)	4.5V			
12	P_EXP3	DC	5V/0V			
13	Audio L5 IN	-14dBv (9dBv)	4.5V			
14	Audio R5 IN	-14dBv (9dBv)	4.5V			
15	Audio_1/2_Vcc	-	4.5V			
16	Audio L6 IN	-14dBv (9dBv)	4.5V			
17	Audio R6 IN	-14dBv (9dBv)	4.5V			
18	Audio_Input_Vcc	-	9V		-	
19	Audio L7 IN	-14dBv (9dBv)	4.5V			
20	Audio R7 IN	-14dBv (9dBv)	4.5V			

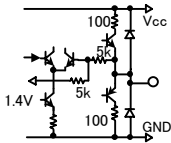
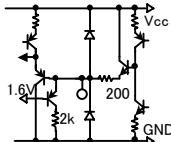
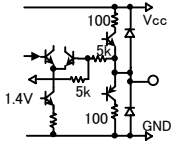
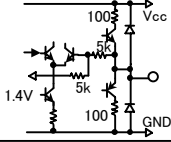
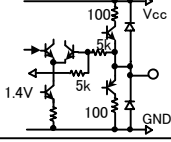
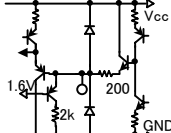
## 端子説明及び等価回路 Table of Pin Functions

Pin No.	ピン名称 Pin Name	波形 Wavefome ( )=MAX	IN及びOUT電圧 Input and Output Voltage	概要 Outline	IC入 OUT回路形式 Input and Output circuit of IC	備考 Note
21	P_EXP4	DC	5V/0V			
22	Audio L8 IN	-14dBv (9dBv)	4.5V			
23	Audio R8 IN	-14dBv (9dBv)	4.5V			
24	Audio_Output_GND	-	0V		-	
25	Audio L9 IN	-14dBv (9dBv)	4.5V			
26	Audio R9 IN	-14dBv (9dBv)	4.5V			
27	NC	-	-		-	
28	Audio L10 IN	-14dBv (9dBv)	4.5V			
29	Audio L10 IN	-14dBv (9dBv)	4.5V			
30	Audio_output_Vcc	-	9V		-	

## 端子説明及び等価回路 Table of Pin Functions

Pin No.	ピン名称 Pin Name	波形 Wavefome ( )=MAX	IN及び OUT電圧 Input and Output Voltage	概要 Outline	IC入 OUT回路形式 Input and Output circuit of IC	備考 Note
31	Audio L3 OUT	-14dBv (9dBv)	4.5V			
32	Audio L3 OUT	-14dBv (9dBv)	4.5V			
33	Audio L2 OUT	-14dBv (9dBv)	4.5V			
34	Audio R2 OUT	-14dbv (9dbv)	4.5V			
35	Audio L1 OUT	-14dbv (9dbv)	4.5V			
36	Audio R1 OUT	-14dbv (9dbv)	4.5V			
37	FBC_CVBS_out5	DC	1.6V			
38	CVBS_out5	2V(p-p) (2.5V(p-p))	SYNC Chip 1.5V			
39	FBC_CVBS_out4	DC	1.6V			
40	CVBS_out4	2V(p-p) (2.5V(p-p))	SYNC Chip 1.5V			

端子説明及び等価回路 Table of Pin Functions

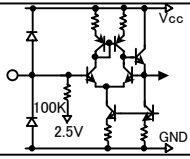
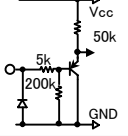
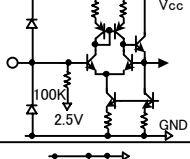
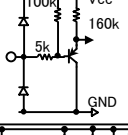
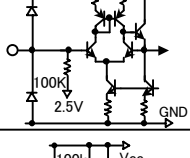
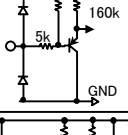
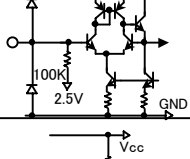
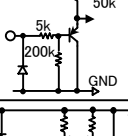
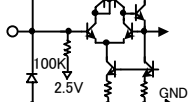
Pin No.	ピン名称 Pin Name	波形 Wavefome ( )=MAX	IN及びOUT電圧 Input and Output Voltage	概要 Outline	IC入 OUT回路形式 Input and Output circuit of IC	備考 Note
41	Out2_GND	-	0V		-	
42	C_out2	714mV(p-p) (857mV(p-p))	Gain : SYNC tyip 0dB : 2.0V -6dB : 1.75V			
43	FBC_Y_out2	DC	1.8V			
44	Out2_Vcc	-	5V		-	
45	CVBS/Y_out2	1.24V(p-p) (1.48V(p-p))	SYNC Chip 1.5V			
46	Out1_GND	-	0V		-	
47	C_out1	714mV(p-p) (857mV(p-p))	Gain : SYNC tyip 0dB : 2.0V -6dB : 1.75V			
48	Out1_Vcc	-	5.0V		-	
49	CVBS/Y_out1	1.24V(p-p) (1.48V(p-p))	SYNC chip 1.5V			
50	FBC_Y_out1	DC	1.8V			

端子説明及び等価回路 Table of Pin Functions

Pin No.	ピン名称 Pin Name	波形 Wavefome ( )=MAX	IN及びOUT電圧 Input and Output Voltage	概要 Outline	IC入 OUT回路形式 Input and Output circuit of IC	備考 Note
51	IIC DATA		0V~5V			
52	IIC CLK		0V~5V			
53	接続判別 CVBS1 Port detection	DC	0V~5V			
54	接続判別 S1 Port detection	DC	0V~5V			
55	CVBS_in7	1.24V(p-p) (1.48V(p-p))	2.5V			
56	接続判別 S4 Port detection	DC	0V~5V			
57	CVBS_in6	1.24V(p-p) (1.48V(p-p))	2.5V			
58	Y_in1_det	DC	4.8V			
59	CVBS_in1_det	DC	4.8V			
60	CVBS_in1	1.24V(p-p) (1.48V(p-p))	2.5V			



端子説明及び等価回路 Table of Pin Functions

Pin No.	ピン名称 Pin Name	波形 Wavefome ( )=MAX	IN及びOUT電圧 Input and Output Voltage	概要 Outline	IC入 OUT回路形式 Input and Output circuit of IC	備考 Note
61	Input_Vcc	-	5V		-	
62	Y_in1	1.0V(p-p) (1.12V(p-p))	2.5V			
63	S2検出 C1_DC Port detection	DC	0V~5V			
64	C_in1	714mV(p-p) (857mV(p-p))	2.15V			
65	接続判別 CVBS2 Port detection	DC	0V~5V			
66	CVBS_in2	1.24V(p-p) (1.48V(p-p))	2.5V			
67	接続判別 S2 Port detection	DC	0V~5V			
68	Y_in2	1.0V(p-p) (1.2V(p-p))	2.5V			
69	S2検出 C2_DC Port detection	DC	0V~5V			
70	C_in2	714mV(p-p) (857mV(p-p))	2.15V			

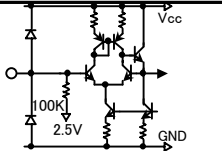
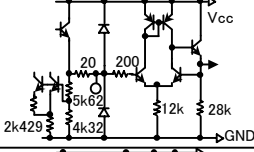
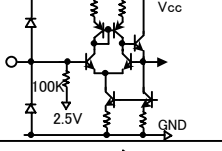
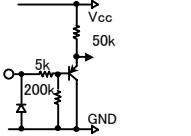
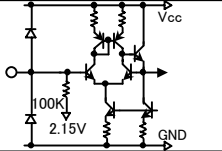
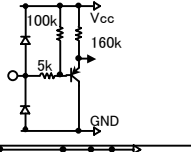
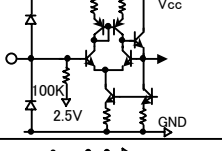
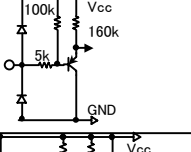
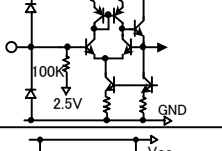
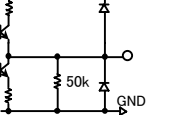
端子説明及び等価回路 Table of Pin Functions

Pin No.	ピン名称 Pin Name	波形 Wavefome ( )=MAX	IN及びOUT電圧 Input and Output Voltage	概要 Outline	IC入 OUT回路形式 Input and Output circuit of IC	備考 Note
71	接続判別 CVBS3 Port detection	DC	0V~5V			
72	CVBS_in3	1.24V(p-p) (1.48V(p-p))	2.5V			
73	接続判別 S3 Port detection	DC	0V~5V			
74	Y_in3	1.0V(p-p) (1.2V(p-p))	2.5V			
75	FBC_Yout3	DC	1.6V			
76	S2検出 C3_DC Port detection	DC	0V~5V			
77	C_in3	714mV(p-p) (857mV(p-p))	2.15V			
78	FBC_CVBS_out3	DC	1.6V			
79	CVBS_out3	2.0V(p-p) (2.5V(p-p))	SYNC Chip 1.5V			
80	ドライバVcc	-	5V		-	

## 端子説明及び等価回路 Table of Pin Functions

Pin No.	ピン名称 Pin Name	波形 Wavefome ( )=MAX	IN及びOUT電圧 Input and Output Voltage	概要 Outline	IC入 OUT回路形式 Input and Output circuit of IC	備考 Note
81	Y_out3	2.0V(p-p) (2.5V(p-p))	SYNC Chip 1.5V			
82	S2識別用DC_out	DC	4.2V/2V/0V			
83	C_out3	1.43V(p-p) (1.71V(p-p))	2.5V			
84	ドライバGND	-	0V		-	
85	CVBS_in4	2.0V(p-p) (2.5V(p-p))	2.5V			
86	接続判別 CVBS4 Port detection	DC	0V~5V			
87	Y_in4	1.0V(p-p) (1.2V(p-p))	2.5V			
88	S2検出 C4_DC Port detection	DC	0V~5V			
89	C_in4	714mV(p-p) (857mV(p-p))	2.15V			
90	Input_GND	-	0V		-	

端子説明及び等価回路 Table of Pin Functions

Pin No.	ピン名称 Pin Name	波形 Wavefome ( )=MAX	IN及びOUT電圧 Input and Output Voltage	概要 Outline	IC入 OUT回路形式 Input and Output circuit of IC	備考 Note
91	CVBS_in5	1.24V(p-p) (1.48V(p-p))	2.5V			
92	BG	DC	2.8V			
93	Y_in5	1.0V(p-p) (1.2V(p-p))	2.5V			
94	S2検出 C5_DC Port detection	DC	0V~5V			
95	C_in5	714mV(p-p) (857mV(p-p))	2.15V			
96	接続判別 CVBS5 Port detection	DC	0V~5V			
97	Comp_Y_in1	1.0V(p-p) (1.2V(p-p))	2.5V			
98	接続判別 S5 Port detection	DC	0V~5V			
99	Comp_Y_in2	1.0V(p-p) (1.2V(p-p))	2.5V			
100	ATT_Mon_out	0.7V(p-p) (0.84V(p-p))	2.5V			

レジスタマップ Register Map

Register map

SLAVE ADDRESS 1001 000x (xはRWbit)

SUB_ADR	b7	b6	b5	b4	b3	b2	b1	b0	
0x*0	POWER SAVE	LPF1	VYC OUT1 ATT	VYC OUT1 MUTE	VYC OUT1 SEL				W
0x*1		LPF2	VYC OUT2 ATT	VYC OUT2 MUTE	VYC OUT2 SEL				W
0x*2	YC OUT3 SEL			V OUT3 SEL		DC OUT SET			W
0x*3	VYC IN2 ATT	MON MUTE	-	VY OUT4 SEL	VY OUT5 SEL	VY OUT4 AMP	VY OUT5 AMP		W
0x*4		VY OUT1 GAIN							W
0x*5		VY OUT2 GAIN							W
0x*6	A INCH8 ATT	C OUT1 GAIN							W
0x*7	A INCH9 ATT	C OUT2 GAIN							W
0x*8	LR OUT1 SEL				LR OUT2 SEL				W
0x*9	LR OUT3 SEL				EXP OUT1	EXP OUT2	EXP OUT3	EXP OUT4	W
0x*A	A INCH10 ATT	LR OUT3 GAIN							W
0x*B	V IN1 ST	V IN2 ST	V IN3 ST	V IN4 ST	V IN5 ST	S IN1 ST	S IN2 ST	S IN3 ST	R
0x*C	S IN4 ST	S IN5 ST	S2 IN1 ST		S2 IN2 ST		S2 IN3 ST		R
0x*D	S2 IN4 ST		S2 IN5 ST		CVBS IN1 ST	Y IN1 ST	0	0	R

シリアルデータ Table of Serial Control

WRITE SLAVE ADDRESS(1001 0000 )

<SUB\_ADR 0x\*0>

DATA	COMMAND	内容 Contents				備考 Note	
b7	POWER SAVE	b7				注1 Note1)	
		0 NORMAL					
		1 POWER SAVE					
b6	LPF1	b6					
		0 LPF OFF					
		1 LPF ON					
b5	CVBS/Y_out1 C_out1 ATT	b5					
		0 0dB					
		1 -6dB					
b4	CVBS/Y_out 1 C_out1 MUTE	b4				LPF MUTE	
		0 THROUGH					
		1 MUTE(DC OUT)					
b3 b2 b1 b0	CVBS/Y_out1 C_out1 INPUT SELECT	b3	b2	b1	b0	INPUT MUTE C_out=MUTE	
		0	0	0	0		MUTE(DC OUT)
		0	0	0	1		CVBS_IN1
		0	0	1	0		CVBS_IN2
		0	0	1	1		CVBS_IN3
		0	1	0	0		CVBS_IN4
		0	1	0	1		CVBS_IN5
		0	1	1	0		CVBS_IN6
		0	1	1	1		CVBS_IN7
		1	0	0	0		-
		1	0	0	1		YC_IN1
		1	0	1	0		YC_IN2
		1	0	1	1		YC_IN3
		1	1	0	0		YC_IN4
		1	1	0	1		YC_IN5
		1	1	1	0		-
		1	1	1	1		-

<SUB\_ADR 0x\*1>

DATA	COMMAND	内容 Contents				備考 Note	
b7	-	b7					
		-					
		-					
b6	LPF2	b6					
		0 LPF OFF					
		1 LPF ON					
b5	CVBS/Y_out 2 C_out2 ATT	b5					
		0 0dB					
		1 -6dB					
b4	CVBS/Y_out 2 C_out2 MUTE	b4				LPF MUTE	
		0 THROUGH					
		1 MUTE(DC OUT)					
b3 b2 b1 b0	CVBS/Y_out 2 C_out1 INPUT SELECT	b3	b2	b1	b0	INPUT MUTE C_out=MUTE	
		0	0	0	0		MUTE(DC OUT)
		0	0	0	1		CVBS_IN1
		0	0	1	0		CVBS_IN2
		0	0	1	1		CVBS_IN3
		0	1	0	0		CVBS_IN4
		0	1	0	1		CVBS_IN5
		0	1	1	0		CVBS_IN6
		0	1	1	1		CVBS_IN7
		1	0	0	0		-
		1	0	0	1		YC_IN1
		1	0	1	0		YC_IN2
		1	0	1	1		YC_IN3
		1	1	0	0		YC_IN4
		1	1	0	1		YC_IN5
		1	1	1	0		-
		1	1	1	1		-

注)記載なき場合初期値'0' Initial value 0

注1)パワーセーブ時動作するブロック The block which operates at the time of the Power save Mode.

IIC、CVBS\_in1存在判別、Y\_in1存在判別、端子接続情報、S2検出、P\_EXP IIC、CVBS1/Y1\_SignalPort.Aspect detection、EXP\_OUT

シリアルデータ Table of Serial Control

WRITE SLAVE ADDRESS( 1001 0000)

<SUB ADR 0x\*2>

DATA	COMMAND	内容 Contents			備考 Note
b7 b6 b5	YC_OUT3 INPUT SELECT	b7	b6	b5	
		0	0	0	MUTE(DC OUT)
		0	0	1	YC_IN1
		0	1	0	YC_IN2
		0	1	1	YC_IN3
		1	0	0	YC_IN4
		1	0	1	YC_IN5
		1	1	0	-
b4 b3 b2	CVBS_OUT3 INPUT SELECT	b4	b3	b2	
		0	0	0	YC_MIX
		0	0	1	CVBS_IN1
		0	1	0	CVBS_IN2
		0	1	1	CVBS_IN3
		1	0	0	CVBS_IN4
		1	0	1	CVBS_IN5
		1	1	0	CVBS_IN6
b1 b0	DC_OUT 82pin OUT	b1	b0		
		0	0	LOW	
		0	1	MID	
		1	0	HIGH	
		1	1	-	

<SUB ADR 0x\*3>

DATA	COMMAND	内容 Contents			備考 Note
b7 b6	VYC_IN2 ATT	b7	b6		
		0	0	±0%	
		0	1	-3.5%	
		1	0	-7%	
		1	1	-10.5%	
b5	MON MUTE	b5			
		0	MUTE ON		
		1	MUTE OFF		
b4	-	b4			
		0	-		
		1	-		
b3	V_OUT4 INPUT SELECT	b3			
		0	CVBS/Y		
		1	COMP_Y_IN1		
b2	V_OUT5 INPUT SELECT	b2			
		0	CVBS/Y		
		1	COMP_Y_IN2		
b1	V_OUT4 AMP GAIN	b1			
		0	0dB		
		1	+6dB		
b0	V_OUT5 AMP GAIN	b0			
		0	0dB		
		1	+6dB		

注)記載なき場合初期値'0' Initial value 0

## シリアルデータ Table of Serial Control

WRITE SLAVE ADDRESS(1001 0000 )

## &lt;SUB ADR 0x\*4&gt;

DATA	COMMAND	内容 Contents		備考 Note
b7	-	b7		
		-		
		-		
b6~b0	VY_OUT1 VCA GAIN	b6~b0		POWER ON SET code'64'
		code '0'	Min	
		code '64'	center (0dB)	
		code '127'	Max	

## &lt;SUB ADR 0x\*5&gt;

DATA	COMMAND	内容 Contents		備考 Note
b7	-	b7		
		-		
		-		
b6~b0	VY_OUT2 VCA GAIN	b6~b0		POWER ON SET code'64'
		code '0'	Min	
		code '64'	center (0dB)	
		code '127'	Max	

## &lt;SUB ADR 0x\*6&gt;

DATA	COMMAND	内容 Contents		備考 Note
b7	A.IN8_ATT 0/-6dB	b7		
		0	0dB	
		1	-6dB	
b6~b0	C.OUT1 VCA GAIN	b6~b0		POWER ON SET code'64'
		code '0'	Min	
		code '64'	center (0dB)	
		code '127'	Max	

## &lt;SUB ADR 0x\*7&gt;

DATA	COMMAND	内容 Contents		備考 Note
b7	A.IN9_ATT 0/-6dB	b7		
		0	0dB	
		1	-6dB	
b6~b0	C.OUT2 VCA GAIN	b6~b0		POWER ON SET code'64'
		code '0'	Min	
		code '64'	center (0dB)	
		code '127'	Max	

注)記載なき場合初期値'0' Initial value 0



シリアルデータ Table of Serial Control

WRITE SLAVE ADDRESS(1001 0000 )

<SUB ADR 0x\*8>

DATA	COMMAND	内容 Contents				備考 Note	
		b7	b6	b5	b4		
b7 b6 b5 b4	LR_OUT1 INPUT SELECT	0	0	0	0	MUTE(DC OUT)	
		0	0	0	1	A_IN1	
		0	0	1	0	A_IN2	
		0	0	1	1	A_IN3	
		0	1	0	0	A_IN4	
		0	1	0	1	A_IN5	
		0	1	1	0	A_IN6	
		0	1	1	1	A_IN7	
		1	0	0	0	A_IN8	
		1	0	0	1	A_IN9	
		1	0	1	0	A_IN10	
		1	0	1	1	-	
		1	1	0	0	-	
		1	1	0	1	-	
		1	1	1	0	-	
		b3 b2 b1 b0	LR_OUT2 INPUT SELECT	b3	b2	b1	
0	0			0	0	MUTE(DC OUT)	
0	0			0	1	A_IN1	
0	0			1	0	A_IN2	
0	0			1	1	A_IN3	
0	1			0	0	A_IN4	
0	1			0	1	A_IN5	
0	1			1	0	A_IN6	
0	1			1	1	A_IN7	
1	0			0	0	A_IN8	
1	0			0	1	A_IN9	
1	0			1	0	A_IN10	
1	0			1	1	-	
1	1			0	0	-	
1	1			0	1	-	
1	1			1	0	-	
1	1	1	1	-			

注)記載なき場合初期値'0' Initial value 0

## シリアルデータ Table of Serial Control

WRITE SLAVE ADDRESS(1001 0000)

&lt;SUB ADR 0x\*9&gt;

DATA	COMMAND	内容 Contents				備考 Note	
		b7	b6	b5	b4		
b7 b6 b5 b4	LR_OUT3 INPUT SELECT	0	0	0	0	MUTE(DC OUT)	
		0	0	0	1	A_IN1	
		0	0	1	0	A_IN2	
		0	0	1	1	A_IN3	
		0	1	0	0	A_IN4	
		0	1	0	1	A_IN5	
		0	1	1	0	A_IN6	
		0	1	1	1	A_IN7	
		1	0	0	0	A_IN8	
		1	0	0	1	A_IN9	
		1	0	1	0	A_IN10	
		1	0	1	1	-	
		1	1	0	0	-	
		1	1	0	1	-	
		1	1	1	0	-	
1	1	1	1	-			
b3	EXP_OUT1 3pin	b3					
		0				LOW	
		1				Hi-Z	
b2	EXP_OUT2 6pin	b2					
		0				LOW	
		1				Hi-Z	
b1	EXP_OUT3 12pin	b1					
		0				LOW	
		1				Hi-Z	
b0	EXP_OUT4 21pin	b0					
		0				LOW	
		1				Hi-Z	

&lt;SUB ADR 0x\*A&gt;

DATA	COMMAND	内容 Contents		備考 Note	
		b7			
b7	A_IN10_ATT 0/-6dB	b7			
		0	0dB		
		1	-6dB		
b6~b0	LR_OUT3 VCA GAIN	b6~b0			
		code '0'			0dB
		code '127'			Min

注)記載なき場合初期値'0' Initial value 0

シリアルデータ Table of Serial Control

READ SLAVE ADDRESS(1001 0001 )

<SUB ADR 0x\*B>

DATA	COMMAND	内容 Contents		備考 Note
b7	V_IN 1 端子検出 Port detection	b7		
		0	LOW	
		1	HIGH	
b6	V_IN 2 端子検出 Port detection	b6		
		0	LOW	
		1	HIGH	
b5	V_IN 3 端子検出 Port detection	b5		
		0	LOW	
		1	HIGH	
b4	V_IN 4 端子検出 Port detection	b4		
		0	LOW	
		1	HIGH	
b3	V_IN 5 端子検出 Port detection	b3		
		0	LOW	
		1	HIGH	
b2	S_IN 1 端子検出 Port detection	b2		
		0	LOW	
		1	HIGH	
b1	S_IN 2 端子検出 Port detection	b1		
		0	LOW	
		1	HIGH	
b0	S_IN 3 端子検出 Port detection	b0		
		0	LOW	
		1	HIGH	

<SUB ADR 0x\*C>

DATA	COMMAND	内容 Contents		備考 Note
b7	S_IN 4 端子検出 Port detection	b7		
		0	LOW	
		1	HIGH	
b6	S_IN 5 端子検出 Port detection	b6		
		0	LOW	
		1	HIGH	
b5 b4	S2_IN1 アスペクト情報 Aspect detection	b5	b4	
		0	0	L
		0	1	M
		1	0	H
		1	1	-
b3 b2	S2_IN2 アスペクト情報 Aspect detection	b3	b2	
		0	0	L
		0	1	M
		1	0	H
		1	1	-
b1 b0	S2_IN3 アスペクト情報 Aspect detection	b1	b0	
		0	0	L
		0	1	M
		1	0	H
		1	1	-

注)記載なき場合初期値'0' Initial value 0

## シリアルデータ Table of Serial Control

READ SLAVE ADDRESS(1001 0001 )

&lt;SUB ADR 0x\*D&gt;

DATA	COMMAND	内容 Contents		備考 Note
		b7	b6	
b7 b6	S2_IN4 アスペクト情報 Aspect detection	0	0	L
		0	1	M
		1	0	H
		1	1	-
b5 b4	S2_IN5 アスペクト情報 Aspect detection	b5	b4	
		0	0	L
		0	1	M
		1	0	H
b3	CVBS_IN1 信号検出 Signal detection	b3		
		0		信号なし non-signal
		1		信号あり signal
b2	Y_IN1 信号検出 Signal detection	b2		
		0		信号なし non-signal
		1		信号あり signal
b1	0固定 0 FIX	b1		
		-		
		-		
b0	0固定 0 FIX	b0		
		-		
		-		

注)記載なき場合初期値'0' Initial value 0

## I2C BUS仕様 I2C BUS SPEC

I<sup>2</sup>C BUS SPEC

本ICに内蔵している、I<sup>2</sup>CバスはPhillips社の提唱しているI<sup>2</sup>Cバス(Inter Ic Bus)インターフェース方式標準モードに準拠しているシリアルバスです。

本ICは、データ及びACKの送受信による双方向シリアル・データ転送を行います。

I2C BUS for this IC is based on I2C BUS interface normal mode proposed by Phillips company. This IC has transmitting and receiving function of DATA and ACK.

注: I<sup>2</sup>C LOレベル規格は、-0.5V~0.3V<sub>cc</sub>ですが、0~0.5Vで御使用下さい。  
I<sup>2</sup>C HIレベル規格は、0.7V<sub>cc</sub>~V<sub>cc</sub>+0.5Vですが、3.5V~V<sub>cc</sub>で御使用下さい。  
(最大クロック周波数: 100KHz)

note: Please set Low level at 0~0.5V while standard is -0.5V~0.3V<sub>cc</sub>.  
Please set High level at 3.5V~V<sub>cc</sub> while standard is 0.7V<sub>cc</sub>~V<sub>cc</sub>+0.5V .  
(Max CLK Freq. = 100KHz)

1 DATAフォーマット

## DATA format

下記の2つのデータ送信フォーマットがあります。

This IC has two data-transmitting formats as follows.

## &lt;サブアドレス指定モード&gt;

## Sub\_address designation mode

## Write mode

Master	Start	Slave_address		Sub_address		DATA_n		Stop
Slave			ACK		ACK		ACK	

## &lt;オートインクリメントモード&gt;

## Auto-increment mode

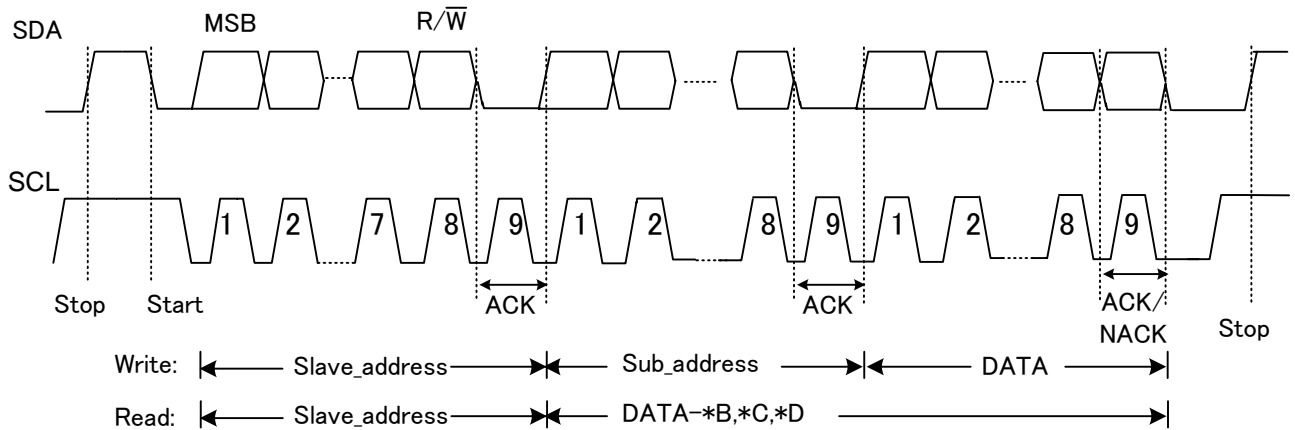
## Write mode

Master	Start	Slave_address		Sub_address		DATA_n		DATA_n+1		....	DATA_n+m		Stop
Slave			ACK		ACK		ACK		ACK	....		ACK	

## Read mode

Master	Start	Slave_address			ACK		ACK		NACK	Stop
Slave			ACK	DATA_1		DATA_2		DATA_3		

## I2C BUS仕様 I2C BUS SPEC



## (1)スレーブアドレスのR/W

Writeモード： マスターからスレーブにデータを書き込む場合には、このビットはLowとして下さい。

Readモード： スレーブからマスターにデータを送る場合には、このビットはHighとして下さい。

## R/W of Slave address

Write mode： Set this bit to Low in case of writing DATA from master to slave.

Read mode： Set this bit to High in case of sending DATA from slave to master.

## (2)マスターへのACKの返信及びデータの送信

この期間、マスター側はSDAをHighにして下さい。

前のSCLの立ち下がりからこの期間のSCLの立ち下がりまでの期間、本ICがSDAをACKの場合はLow、データの場合にはLowまたはHighにします。

## Return of ACK and transmission of DATA to msater：

Set SDA of master to High for this period.

This IC will force SDA to Low in case of ACK and to Low or High in case of DATA from negative edge of the previous SCL to negative edge of SCL in this period.

## (3)マスターからのACK/NACKの確認

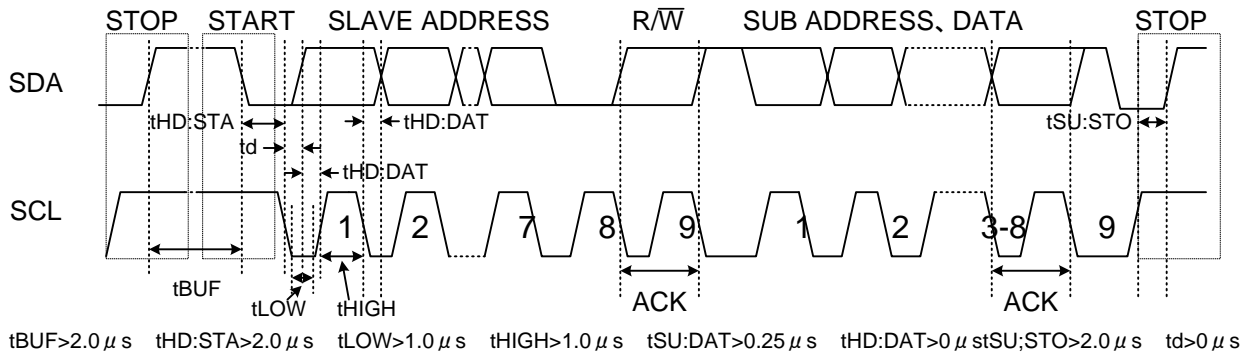
Readモードでデータの受け取りを終了する場合はNACK(SDA=High)を送信してください。

オートインクリメントモードでデータの受け取りを継続する場合はACK(SDA=Low)を送信してください。

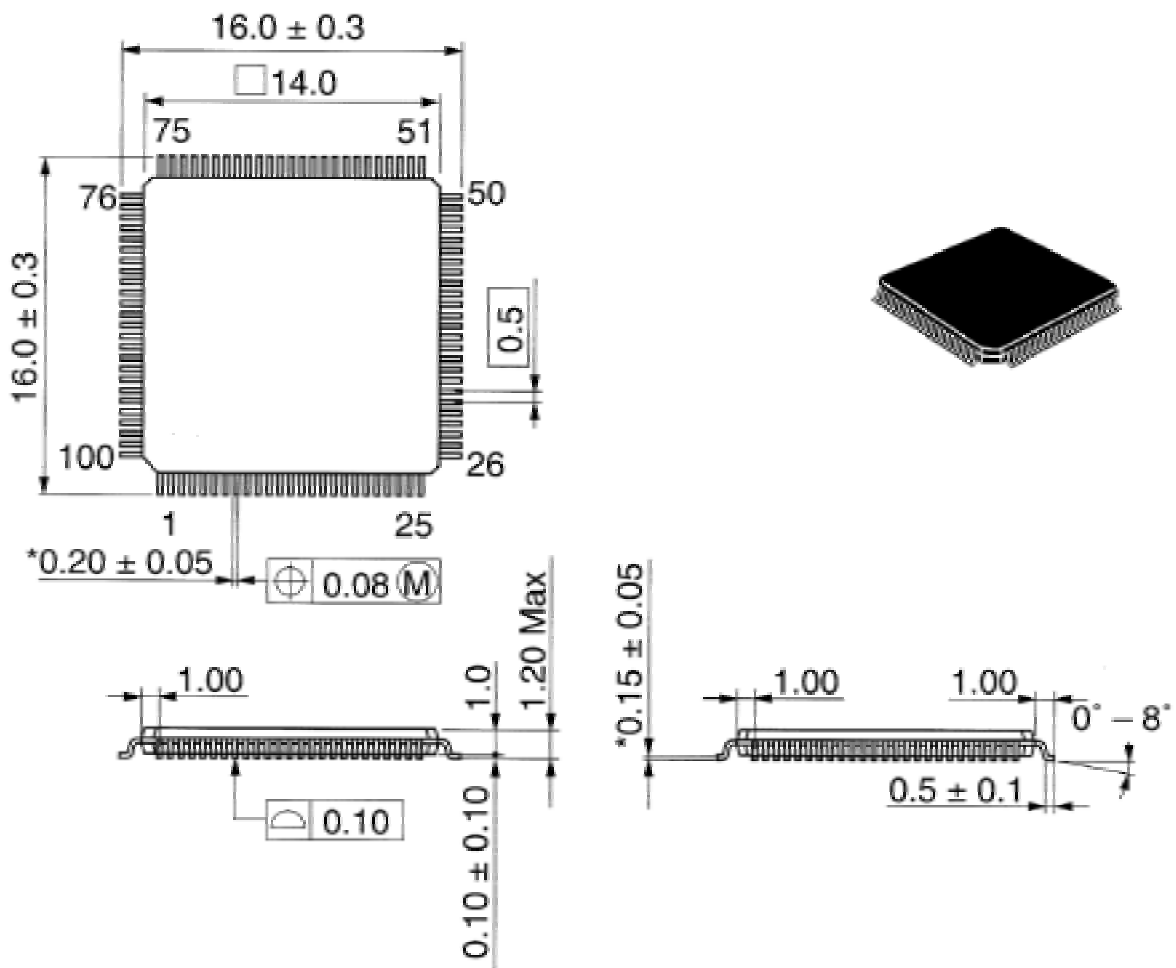
## Confirmation of ACK/NACK from master

Send NACK(SDA=High) in case of finishing reception of DATA in Read mode.

Send ACK(SDA=Low) in case of continuing reception of DATA in Auto-increment mode.

**2. TIME CHAR**

外形寸法図 Drawing of external Dimensions



Unit: mm

\* Dimension including Pd plating thickness