R/G/B VIDEO AMPLIFIER

The KA2141 is a very high frequency Video amplifier system to be used in Monitor. It contains 3 matched R/G/B video amplifiers with blank signal and clamp gate pulse and provides a flexible interfacing to DC controlled adjustment system
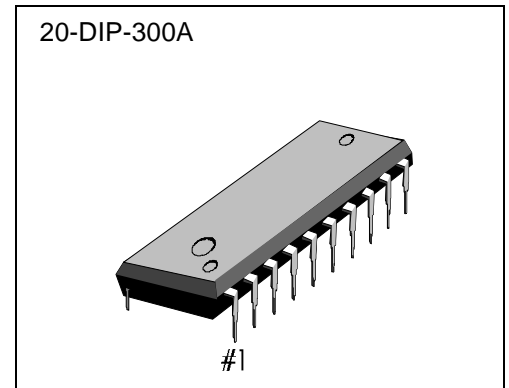
20-DIP-300A

#1

FUNCTIONS

- R/G/B Video Amplifier

- Contrast/SUB contrast control

- Brightness control

- Blank gate/Clamp gate

- Video clamp

FEATURES

- 3 - channel R/G/B Video Amplifier: 85MHz bandwidth.

- DC contrast control range: -38dB (0V ~ 4V)

- DC sub contrast control range: -11dB (0V ~ 4V)

- Maximum Video output level: 7Vpp

- DC Brightness control range: 0V ~ 4V

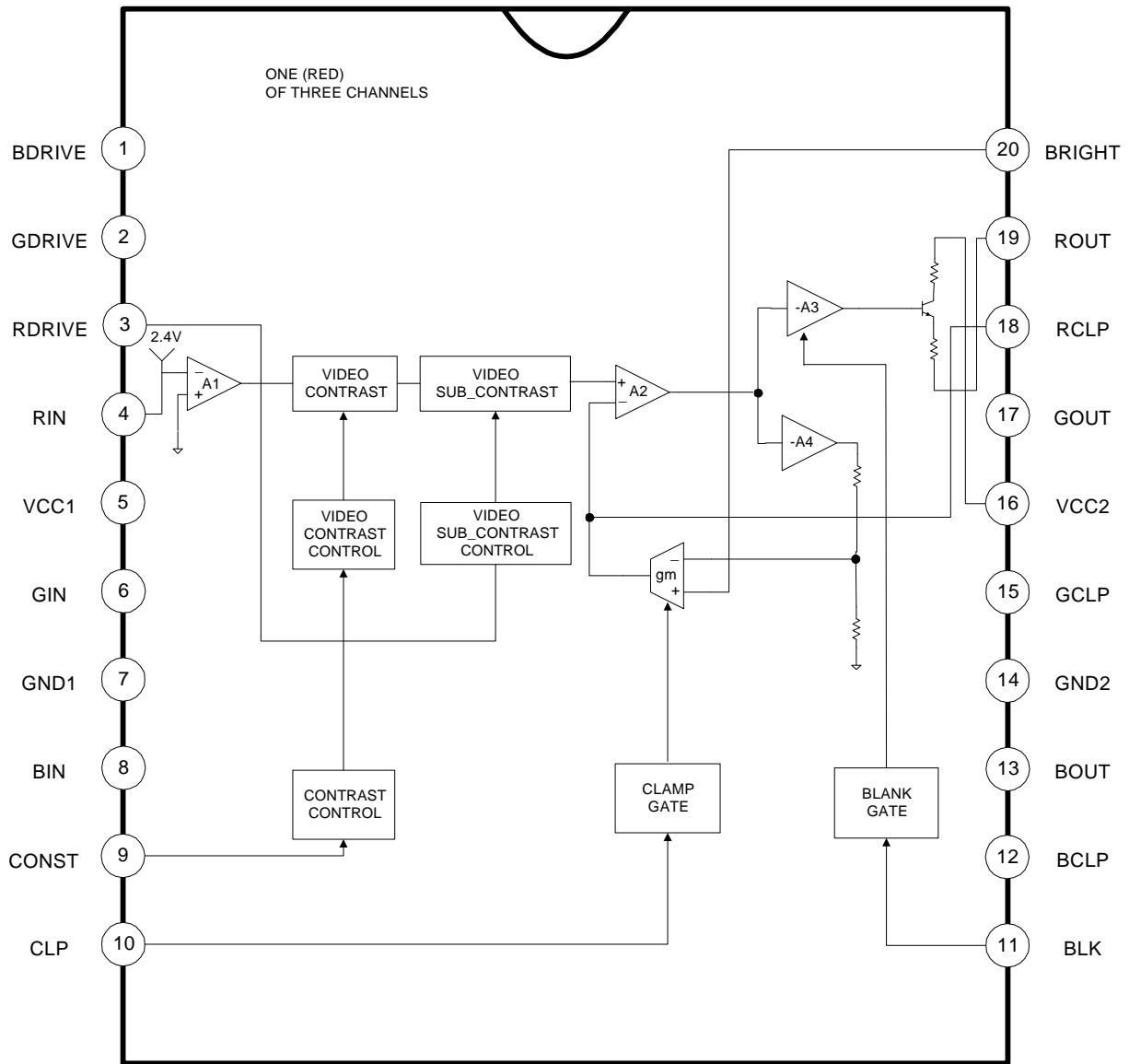- Include blank gate and clamp gate signal processing block

ORDERING INFORMATION

Device	Package	Operating Temperature
KA2141	20-DIP-300	-25 °C ~ +70 °C

BLOCK DIAGRAM

ONE (RED)
OF THREE CHANNELS

Pin	Signal
1	BDRIVE
2	GDRIVE
3	RDRIVE
4	RIN
5	VCC1
6	GIN
7	GND1
8	BIN
9	CONST
10	CLP
20	BRIGHT
19	ROUT
18	RCLP
17	GOUT
16	VCC2
15	GCLP
14	GND2
13	BOUT
12	BCLP
11	BLK

2.4V

-A1

VIDEO CONTRAST

VIDEO SUB_CONTRAST

+ A2

-A3

-A4

gm

VIDEO CONTRAST CONTROL

VIDEO SUB_CONTRAST CONTROL

CONTRAST CONTROL

CLAMP GATE

BLANK GATE

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PIN CONFIGURATIONS

Table 1. Pin Configurations

Pin No	Symbol	I/O	Configurations
1	BDRIVE	I	Blue Gain Control
2	GDRIVE	I	Green Gain Control
3	RDRIVE	I	Red Gain Control
4	RIN	I	Red Video Input
5	V_{CC1}	-	V_{CC1} = 12V
6	GIN	I	Green Video Input
7	GND1	-	Ground1
8	BIN	I	Blue Video Input
9	CONST	I	Contrast Control Input
10	CLP	I	Clamp Gate Pulse Input
11	BLK	I	Blank Gate Pulse Input
12	BCLP	-	Blue Clamp Capacitor
13	BOUT	O	Blue Video Output
14	GND2	-	Ground2
15	GCLP	-	Green Clamp Capacitor
16	V_{CC2}	-	V_{CC2} = 12V
17	GOUT	O	Green Video Output
18	RCLP	-	Red Clamp Capacitor
19	ROUT	O	Red Video Output
20	BRIGHT	I	Brightness Control Input

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PIN DESCRITION

Table 2. Pin Description

Pin No	Pin Name	Schematic	Description
4 6 8	Red Video Input (RIN) Green Video input (GIN) Blue Video Input (BIN)		Max input video signal is 0.7Vpp
9 1 2 3	Video Contrast (CONST) Blue Drive (BDRIVE) Green Drive (GDRIVE) Red Drive (RDRIVE)		Video maximum contrast control range (0V ~ 4V) is -38dB Sub contrast control range (0V ~ 4V) is -11dB
5 17	V_{CC1} V_{CC2}	-	Supply voltage
7 14	GND1 GND2	-	Ground
10	Clamp Gate Input (CLP)		Video amp actives when clamp gate signal is in low TTL level

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Table 2. Pin Description(Continued)

Pin No	Pin Name	Schematic	Description
11	Blank Gate Input (BLK)	PIN 11	Video amp actives when blank gate signal is in low TTL level
18 16 13	Red Video output (ROUT) Green Video output (GOUT) Blue Video output (BOUT)	VCC ... PIN 13	Video signal output
12 15 19	Blue Clamp Cap (BCLP) Green Clamp Cap (GCLP) Red Clamp Cap (RCLP)	VCC ... PIN 12	Brightness controlling actives by charging and discharging of the external cap (0.1uF)
20	Bright Control (BRIGHT)	PIN 20	During the clamp gate period, video signal's DC level (clamp level) is fixed according to the brightness control voltage

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ABSOLUTE MAXIMUM RATINGS (TA = 25 °C)

Table 3. Absolute Maximum Ratings

No	Item	Symbol	Value			Unit
			Min	**Typ**	**Max**	
1	Maximum Supply Voltage	Vccmax	-	-	13.5	V
2	Operating Temperature	Topr	-25	-	70	°C
3	Storage Temperature	Tstg	-65	-	150	°C
4	Maximum Power Dissipation	Pdmax	-	-	1.7	W
5	Thermal Resistance (Junction-ambient)	θja	-	71	-	°C/W
6	Junction Temperature	Tj	-	150	-	°C

ELECTRICAL CHARACTERISTICS

DC Electrical Characteristics: Tamb = 25 °C, V_{CC} = 12V

Table 4. DC Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Supply Current	I_{CC}	V4.6.8=none, V12.15.18=none V1.2.3.9.11=4V, V10=0V, V20=1V	60	80	100	mA
Max. Supply Current	I_{CCmax}	Same conditions of Ica except Vic=12.6V	75	95	115	mA
R Input Bias Voltage	V_{Rb}	Same conditions of Ica Vcc=12V	2.0	2.4	2.8	V
G Input Bias Voltage	V_{Gb}	Same conditions of Icc Vcc=12V	2.0	2.4	2.8	V
B Input Bias Voltage	V_{Bb}	Same conditions of Icc Vcc=12V	2.0	2.4	2.8	V
R Clamp Gate Low Input Voltage	V_{10LR}	V4.6.8.12.15.18=none V1.2.3.9.11=4V, V20=1V V10=variable	0.8	1.5	3.0	V
G Clamp Gate Low Input Voltage	V_{10LG}	V4.6.8.12.15.18=none V1.2.3.9.11=4V, V20=1V V10=variable	0.8	1.5	3.0	V
B Clamp Gate Low Input Voltage	V_{10LB}	V4.6.8.12.15.18=none V1.2.3.9.11=4V, V20=1V V10=variable	0.8	1.5	3.0	V

Table 4. DC Electrical Characteristics(Continued)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
R Clamp Gete High Input Voltage	V_{10HR}	V4.6.8.12.15.18=none V1.2.3.9.11=4V, V20=1V V10=variable	0.8	1.5	3.0	V
G Clamp Gete High Input Voltage	V_{10HG}	V4.6.8.12.15.18=none V1.2.3.9.11=4V, V20=1V V10=variable	0.8	1.5	3.0	V
B Clamp Gete High Input Voltage	V_{10HB}	V4.6.8.12.15.18=none V1.2.3.9.11=4V, V20=1V V10=variable	0.8	1.5	3.0	V
Clamp Gate Low Input Current	I_{10L}	V4.6.8.12.15.18=none V1.2.3.9.11=4V, V20=1V, V10=0V	-0.5	-0.2	-	uA
Clamp Gate Low Input Current	I_{10H}	V4.6.8.12.15.18=none V1.2.3.9.11=4V, V20=1V, V10=12V	-	0.01	1.0	uA
R Clamp-Cap Charge Current	IclampR+	V4.6.8=none, V12.15.18= variable V1.2.3.9.11=4V, V10=0V, V20=4V	0.45	0.75	1.05	mA
G Clamp-Cap Charge Current	IclampG+	V4.6.8=none, V12.15.18= variable V1.2.3.9.11=4V, V10=0V, V20=4V	0.45	0.75	1.05	mA
B Clamp-Cap Charge Current	IclampB+	V4.6.8=none, V12.15.18= variable V1.2.3.9.11=4V, V10=0V, V20=4V	0.45	0.75	1.05	mA
R Clamp-Cap Discharge Current	IclampR-	V4.6.8=none, V12.15.18= variable V1.2.3.9.11=4V, V10=0V, V20=0V	-1.05	-0.75	-0.45	mA
G Clamp-Cap Discharge Current	IclampG-	V4.6.8=none, V12.15.18= variable V1.2.3.9.11=4V,V10=0V, V20=0V	-1.05	-0.75	-0.45	mA
B Clamp-Cap Discharge Current	IclampB-	V4.6.8=none, V12.15.18= variable V1.2.3.9.11=4V, V10=0V, V20=0V	-1.05	-0.75	-0.45	mA
R Blank Gate Low Input Voltage	V_{11LR}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11=variable	0.8	1.5	3.0	V

Table 4. DC Electrical Characteristics(Continued)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
G Blank Gate Low Input Voltage	V_{11LG}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11 (2V → 0V)	0.8	1.5	3.0	V
B Blank Gate Low Input Voltage	V_{11LB}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11 (2V → 0V)	0.8	1.5	3.0	V
R Blank Gate High Input Voltage	V_{11HR}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11 (0V → 2V)	0.8	1.5	2.0	V
G Blank Gate High Input Voltage	V_{11HG}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11 (0V → 2V)	0.8	1.5	2.0	V
B Blank Gate High Input Voltage	V_{11HB}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11 (0V → 2V)	0.8	1.5	2.0	V
Blank Gate Low Input Current	I_{11L}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11=0V	-5.0	-2.0	-	uA
Blank Gate High Input Current	I_{11RL}	V4.6.8=none, V12.15.18= variable V1.2.3.9.11=4V, V10=0V, V20=0V	-	-0.01	1.0	uA
R Output Low Voltage	V_{ORL}	V4.6.8=none, V12.15.18= variable V1.2.3.9.11=4V, V10=0V, V20=0V	-	0.1	0.2	V
G Output Low Voltage	V_{OCTL}	V4.6.8=none, V12.15.18= variable V1.2.3.9.11=4V, V10=0V, V20=0V	-	0.1	0.2	V
B Output Low Voltage	V_{OBL}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11=variable	-	0.1	0.2	V
R Output High Voltage	V_{ORH}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11 (2V → 0V)	6.2	7.0	8.3	V
G Output High Voltage	V_{OGH}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11 (2V → 0V)	6.2	7.0	8.3	V
B Output High Voltage	V_{OBRL}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11 (0V → 2V)	6.2	7.0	8.3	V
R Black Level Output Voltage	V_{ORBL}	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11 (0V → 2V)	0.7	1.0	1.3	V

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Table 4. DC Electrical Characteristics(Continued)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
G Black Level Output Voltage	B$_{OGBL}$	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11 (0V → 2V)	0.7	1.0	1.3	V
B Black Level Output Voltage	V$_{OBBL}$	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11=0V	0.7	1.0	1.3	V
R-G Black Level Output Voltage	ΔR-GBL	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V20=1V, V11=12V	-0.3	-	0.3	V
G-B Black Level Output Voltage	ΔR-BBL	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V11=12V, V20=0V	-0.3	-	0.3	V
B-R Black Level Output Voltage	ΔR-RBL	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V11=12V, V20=0V	-0.3	-	0.3	V
R Blank Output Voltage	V$_{ORB}$	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V11=12V, V20=0V	-	0.05	0.5	V
G Blank Output Voltage	B$_{OGB}$	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V11=12V, V20=10V	-	0.05	0.5	V
B Blank Output Voltage	V$_{OBB}$	V4.5.8.12.15.18=none, V10=0V V1.2.3.9=4V, V11=12V, V20=10V	-	0.05	0.5	V
R Sub Drive Ctrl Input Current	IRd	V4.5.8.12.15.18=none, V10=0V V1.2.3=0/4V, V9=4V, V11=4V, V20=1V	-	0.25	2.0	uA
G Sub Drive Ctrl Input Current	IGd	V4.5.8.12.15.18=none, V10=0V V1.2.3=0/4V, V9=4V, V11=4V, V20=1V	-	0.25	2.0	uA
B Sub Drive Ctrl Input Current	IBd	V4.5.8.12.15.18=none, V10=0V V1.2.3=0/4V, V9=4V, V11=4V, V20=1V	-	0.25	2.0	uA
Contrast Control Input Current	I$_{CON}$	V4.5.8.12.15.18=none, V10=0V V1.2.3=4V, V9.20=0V, V11=4V	-	0.25	2.0	uA
Brightness Control Input Current	Ibrt	V4.5.8.12.15.18=none, V10=0V V1.2.3=4V, V9.20=4V, V11=4V	-	1.0	2.0	uA
R Spot Killer Voltage	VspotR	V4.5.8.12.15.18=none, V10=0V V1.2.3=4V, V9.20=4V, V11=4V	8.0	10.0	11.2	V
G Spot Killer Voltage	VspotG	V4.5.8.12.15.18=none, V10=0V V1.2.3=4V, V9.20=4V, V11=4V	8.0	10.0	11.2	V
B Spot Killer Voltage	VspotB	V4.5.8.12.15.18=none, V10=0V V1.2.3=4V, V9.20=4V, V11=4V	8.0	10.0	11.2	V

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AC Electrical Characteristics: Tamb = 25 °C, V_{CC} = 12V

Table 5. AC Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
R Video Amp Gain	AvmaxR	V1.2.3.9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1/3V	15.5	17.5	19.5	dB
G Video Amp Gain	AvmaxG	V1.2.3.9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1/3V	15.5	17.5	19.5	dB
B Video Amp Gain	AvmaxB	V1. 2.3.9.11 = 4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1/3V	15.5	17.5	19.5	dB
R-G Amp Gain Difference	AvR-G	V1.2.3.9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-1.0	-	1.0	dB
G-B Amp Gain Difference	AvG-B	V1.2.3.9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-1.0	-	1.0	dB
B-R Amp Gain Difference	AvB-R	V1.2.3.9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-1.0	-	1.0	dB
R Sub Dr. Ctrl Gain Difference1	AvDR1	V1.2.3=2V, V9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-6.0	-4.0	-2.0	dB
G Sub Dr. Ctrl Gain Difference1	AvDG1	V1.2.3=2V, V9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-6.0	-4.0	-2.0	dB
B Sub Dr. Ctrl Gain Difference1	AvDB1	V1.2.3=2V, V9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-6.0	-4.0	-2.0	dB
R Sub Dr. Ctrl Gain Difference2	AvDR2	V1.2.3=0.25V, V9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-13.0	-10.0	-7.0	dB
G Sub Dr. Ctrl Gain Difference2	AvDG2	V1.2.3=0.25V, V9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-13.0	-10.0	-7.0	dB
B Sub Dr. Ctrl Gain Difference	AvDB2	V1.2.3=0.25V, V9.11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-13.0	-10.0	-7.0	dB
R Contrast Ctrl Gain Difference1	AvCR1	V1.2.3=4V, V9=2V, V11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-8.0	-6.0	-4.0	dB
G Contrast Ctrl Gain Difference	AvCG1	V1.2.3=4V, V9=2V, V11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-8.0	-6.0	-4.0	dB
B Contrast Ctrl Gain Difference	AvCB1	V1.2.3=4V, V9=2V, V11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-8.0	-6.0	-4.0	dB

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Table 5. AC Electrical Characteristics(Continued)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
R-G Amp Gain Difference	∆AvR-G	V1.2.3=4V, V9=4/2V, V11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-1.0	-	1.0	dB
G-B Amp Gain Difference	∆AvR-B	V1.2.3=4V, V9=4/2V, V11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-1.0	-	1.0	dB
B-R Amp Gain Difference	∆AvR-R	V1.2.3=4V, V9=4/2V, V11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-1.0	-	1.0	dB
R Contrast Ctrl Gain Difference2	AvCR2	V1.2.3=4V, V9=0.25V, V11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-	-38.0	-30.0	dB
G Contrast Ctrl Gain Difference2	AvCG2	V1.2.3=4V, V9=0.25V, V11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-	-38.0	-30.0	dB
B Contrast Ctrl Gain Difference2	AvCB2	V1.2.3=4V, V9=0.25V, V11=4V, V12.15.18=none, V4.6.8=S1, V10=S8, V20=1V	-	-38.0	-30.0	dB
R Video Amp Bandwidth	Rf-3dB	V4.6.8=S2, V12.15.18=variable V10=4V, V20=1/3V	70	85	-	MHz
G Video Amp Bandwidth	Gf-3dB	V4.6.8=S2, V12.15.18=variable V10=4V, V20=1/3V	70	85	-	MHz
B Video Amp Bandwidth	Bf-3dB	V4.6.8=S2, V12.15.18=variable V10=4V, V20=1/3V	70	85	-	MHz
R Video Amp THD	R_{THD}	V4.5.8=S5, V12.15.18=none V1.2.3.10.11=4V, V9=Variable	-	1.0	5.0	%
G Video Amp THD	G_{THD}	V4.5.8=S5, V12.15.18=none V1.2.3.10.11=4V, V9=Variable	-	1.0	5.0	%
B Video Amp THD	B_{THD}	V4.5.8=S5, V12.15.18=none V1.2.3.10.11=4V, V9=Variable	-	1.0	5.0	%
R Video Amp IS01-10K	$R_{ISO1-10K}$	V4=S3, V6.8=none, V20=1V V12.15.18=variable V1.2.3.9.10.11=4V	-	-65	-45	dB
R Video Amp IS02-10K	$R_{ISO2-10K}$	V4=S3, V6.8=none, V20=1V V12.15.18=variable, V1.2.3.9.10.11=4V	-	-65	-45	dB
G Video Amp IS01-10K	$G_{ISO1-10K}$	V4.8=none, V6=S3, V20=1V V12.15.18=variable, V1.2.3.9.10.11=4V	-	-65	-45	dB
G Video Amp IS02-10K	$G_{ISO2-10K}$	V4.8=none, V6=S3, V20=1V V12.15.18=variable, V1.2.3.9.10.11=4V	-	-65	-45	dB

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Table 5. AC Electrical Characteristics(Continued)

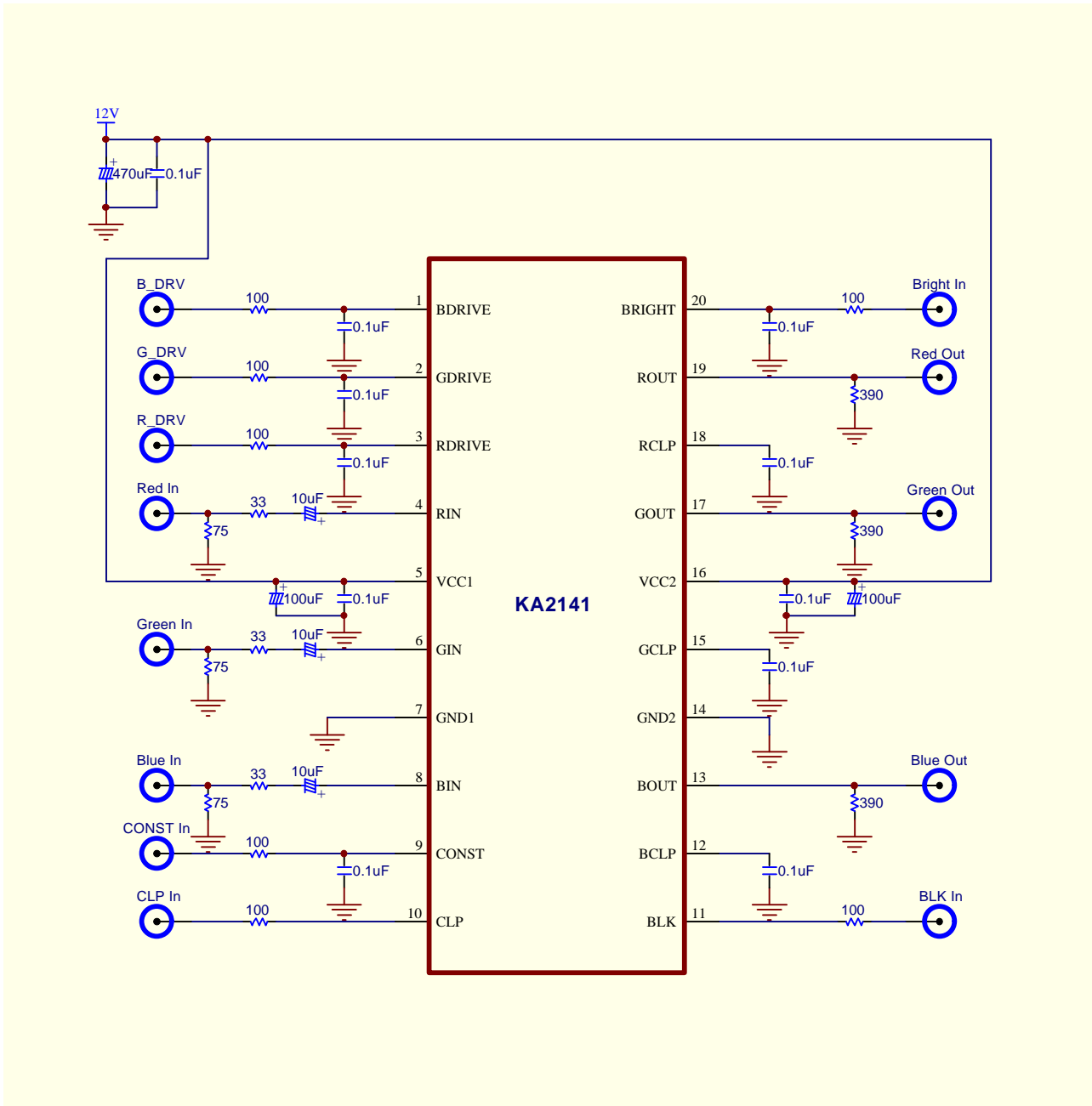| Parameter	Symbol	Conditions	Min	Typ	Max	Unit
B Video Amp IS01-10K	$B_{ISO1-10K}$	V4.6=none, V8=S3, V20=1V V12.15.18=variable, V1.2.3.9.10.11=4V	-	-65	-45	dB
B Video Amp IS02-10K	$B_{ISO2-10K}$	V4.6=none, V8=S3, V20=1V V12.15.18=variable, V1.2.3.9.10.11=4V	-	-65	-45	dB
R Video Amp IS01-10M	$R_{ISO1-10M}$	V6.8=none, V4=S3, V20=1V V12.15.18=variable, V1.2.3.9.10.11=4V	-	-50	-35	dB
R Video Amp IS02-10M	$R_{ISO2-10M}$	V6.8=none, V4=S3, V20=1V V12.15.18=variable, V1.2.3.9.10.11=4V	-	-50	-35	dB
G Video Amp IS01-10M	$G_{ISO1-10M}$	V6=S3, V4.8=none	-	-50	-35	dB
G Video Amp IS02-10M	$G_{ISO2-10M}$	V6=S3, V4.8=none	-	-50	-35	dB
B Video Amp IS01-10M	$B_{ISO1-10M}$	V8=S3, V4.6=none	-	-50	-35	dB
B Video Amp IS02-10M	$B_{ISO2-10M}$	V8=S3, V4.6=none	-	-50	-35	dB
R Video Rising Time	trR	V4.6.8=S6, V12.15.18=none V1.2.3.11=4V, V10=S8, V20=1V V9=variable	-	4.0	5.0	ns
G Video Rising Time	trG	V4.6.8=S6, V12.15.18=none V1.2.3.11=4V, V10=S8, V20=1V V9=variable	-	4.0	5.0	ns
B Video Rising Time	trB	V4.6.8=S6, V12.15.18=none V1.2.3.11=4V, V10=S8, V20=1V V9=variable	-	4.0	5.0	ns
R Video Falling Time	tfR	V4.6.8=S6, V12.15.18=none V1.2.3.11=4V, V10=S8, V20=1V V9=variable	-	4.0	5.0	ns
G Video Falling Time	tfG	V4.6.8=S6, V12.15.18=none V1.2.3.11=4V, V10=S8, V20=1V V9=variable	-	4.0	5.0	ns
B Video Falling Time	tfB	V4.6.8=S6, V12.15.18=none V1.2.3.11=4V, V10=S8, V20=1V V9=variable	-	4.0	5.0	ns
R Blank Output Rising Time	trBlankR	V4.6.8.12.15.18=none V1.2.3.9=4V, V11=S7, V10=0V V20=variable	-	6.0	15.0	ns

Table 5. AC Electrical Characteristics(Continued)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
G Blank Output Rising Time	trBlankG	V4.6.8.12.15.18=none V1.2.3.9=4V, V11=S7, V10=0V V20=variable	-	6.0	15.0	ns
B Blank Output Rising Time	trBlankB	V4.6.8.12.15.18=none V1.2.3.9=4V, V11=S7, V10=0V V20=variable	-	6.0	15.0	ns
R Blank Output Falling Time	tfBlankR	V4.6.8.12.15.18=none V1.2.3.9=4V, V11=S7, V10=0V V20=variable	-	7.0	20.0	ns
G Blank Output Falling Time	tfBlankG	V4.6.8.12.15.18=none V1.2.3.9=4V, V11=S7, V10=0V V20=variable	-	7.0	20.0	ns
B Blank Output Falling Time	tfBlankB	V4.6.8.12.15.18=none V1.2.3.9=4V, V11=S7, V10=0V V20=variable	-	7.0	20.0	ns

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APPLICATION CIRCUIT

20-DIP-300A

Dimensions in Milimeters/inches

6.40 ± 0.20
0.252 ± 0.008

#1   #20

#10   #11

$\frac{26.80}{1.055}$ MAX

$\frac{26.40}{1.039}$ ± 0.20 ± 0.008

$\frac{1.77}{0.070}$ ( )

$\frac{0.46}{0.018}$ ± 0.10 ± 0.004

$\frac{1.52}{0.060}$ ± 0.10 ± 0.004

$\frac{2.54}{0.100}$

$\frac{3.25}{0.128}$ ± 0.20 ± 0.008

$\frac{0.51}{0.020}$ MIN

$\frac{5.08}{0.200}$ MAX

$\frac{3.30}{0.130}$ ± 0.30 ± 0.012

$\frac{7.62}{0.300}$

$0\sim15°$

$\frac{0.25}{0.010}$ $^{+0.10}_{-0.05}$ $^{+0.004}_{-0.002}$

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