The RF Line

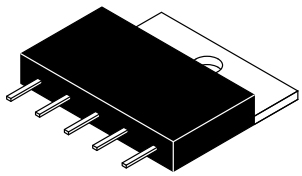
Video Driver Hybrid Amplifier

CR2428

The CR2428 is designed specifically for use as the video channel final stage in high resolution monitors.

- Typical 10–90% Transitions Times are 2.5 ns
- 130 MHz Minimum Bandwidth at 40 Vp–p Output
- 290 MHz Minimum Video Clock Frequency
- Up to 50 Vp–p Output Swing with 60 V Supply Voltage
- Low Power Consumption
- Excellent Grey–Scale Linearity
- Unconditional Stability
- Gold Metallization System for the Ultimate in Reliability

2.5 ns
130 MHz
VIDEO DRIVER
HYBRID
AMPLIFIER



CASE 431A–02, STYLE 1
(CR LP)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	V_{CC}	70	Vdc
Operating Case Temperature Range	T_C	–20 to +100	°C
Storage Temperature Range	T_{stg}	–40 to +100	°C

ELECTRICAL CHARACTERISTICS (T_C = 25°C, V_{CC} = 60 V, C_{LOAD} = 8.5 pF, 40 V peak–to–peak output swing with 30 Vdc offset; R_1 = 215 Ω, C_1 = 90 pF typ)

Characteristic	Symbol	Min	Typ	Max	Unit
Supply Current (With Input Open Circuited)	I_{CC}	39.5	43.5	47.5	mA
Input DC Voltage (With Input Open Circuited)	V_{inDC}	1.15	1.4	1.65	V
Output DC Voltage (With Input Open Circuited)	V_{outDC}	26	30	34	V
Voltage Gain (1) (2)	A_V	11.2	12.4	13.2	V/V
Transient Response (2) — Rise Time (10% to 90%) — Overshoot — Fall Time (90% to 10%) — Overshoot	 t_r $V_{os,r}$ t_f $V_{os,f}$	 — — — —	 2.5 8.0 2.5 6.0	 2.9 15 2.9 10	 ns % ns %
Operating Supply Current (V_{out} = 40 V Peak–to–Peak, 50 MHz Square Wave with 30 V offset) (3)	I_{CC}	—	100	—	mA
Linearity Error (V_{out} = +5.0 V to +55 V)	—	—	—	5.0	%

NOTES:
1. $A_V = V_{out}/V_S$
2. Input Signal is nominally a 62.5 kHz square wave of 3.25 V peak–to–peak with 1.4 Vdc offset. Input t_r, t_f < 1.0 ns.
3. Output is not short circuit protected.

TYPICAL CHARACTERISTICS

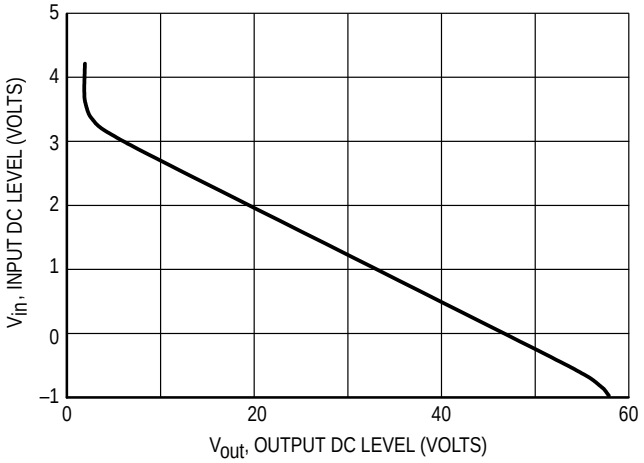


Figure 1. Voltage Ratio at RF Input Port

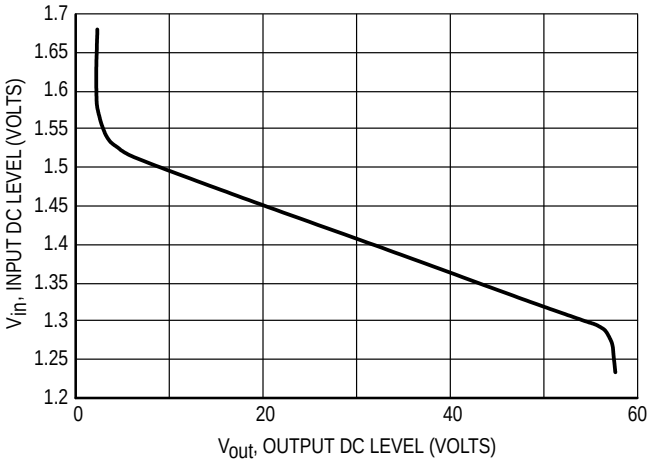


Figure 2. Voltage Ratio at Port 1

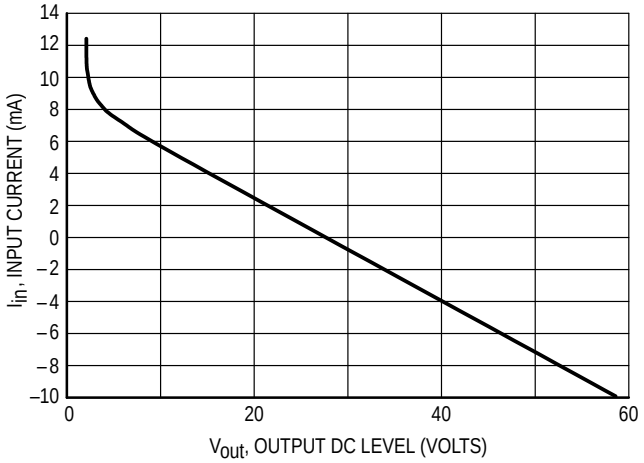


Figure 3. Output Voltage versus Input Current

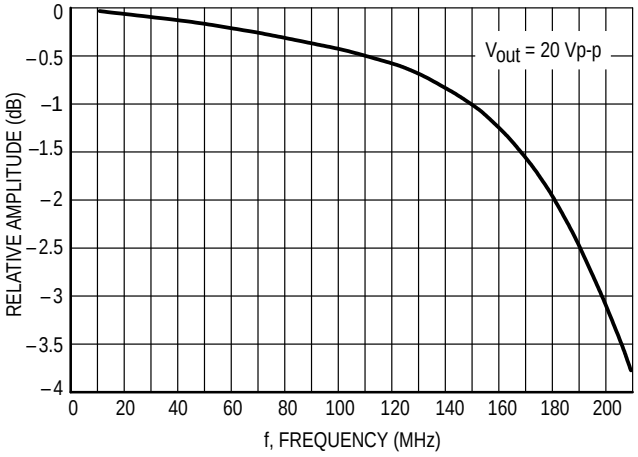


Figure 4. Frequency Response

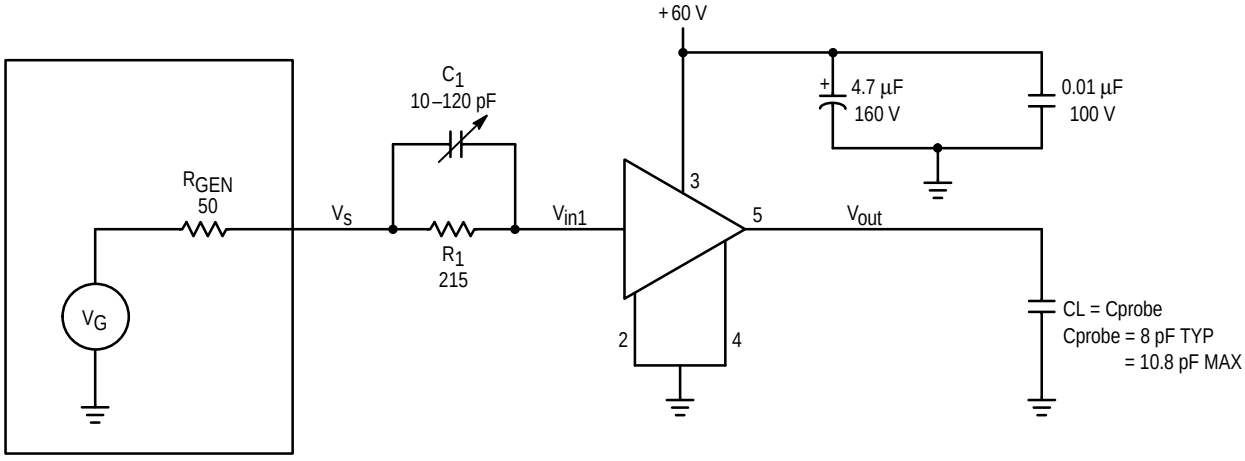
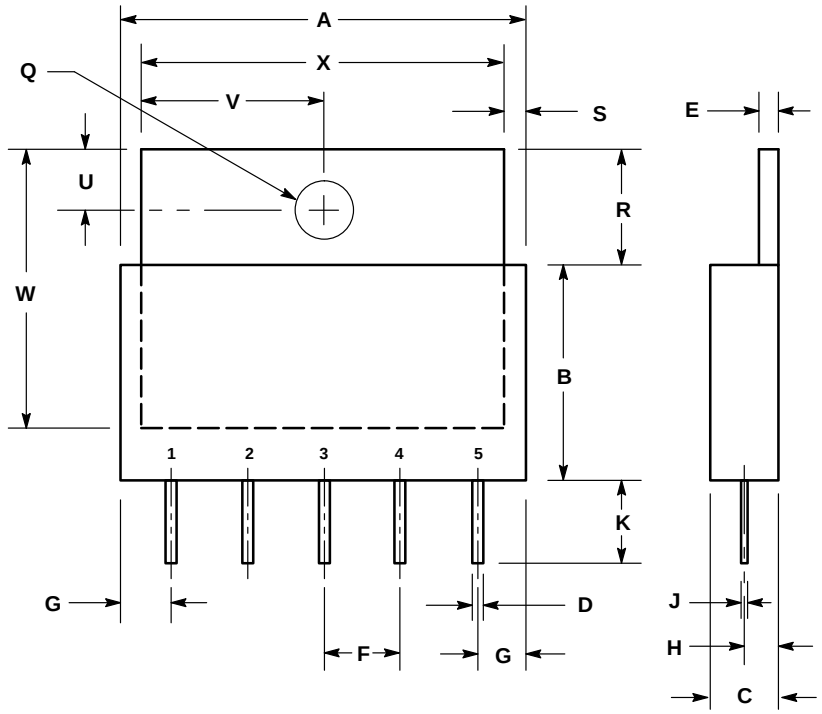


Figure 5. CRT Driver Test Circuit

PACKAGE DIMENSIONS



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	1.055	1.065	26.80	27.05
B	0.550	0.565	13.97	14.35
C	0.175	0.185	4.45	4.70
D	0.020	—	0.51	—
E	0.045	0.055	1.14	1.40
F	0.195	0.205	4.95	5.21
G	0.125	0.135	3.18	3.43
H	0.080	0.090	2.03	2.29
J	0.010	—	0.25	—
K	0.215	0.225	5.46	5.72
Q	0.145	0.155	3.68	3.94
R	0.300	0.320	7.62	8.13
S	0.045	0.055	1.14	1.40
U	0.155	0.165	3.94	4.19
V	0.470	0.480	11.94	12.19
W	0.730	0.740	18.54	18.80
X	0.945	0.955	24.00	24.26

STYLE 1:
PIN 1. V_{in}
2. GROUND
3. $+V_{CC}$
4. GROUND
5. Vout

CASE 431A–02
ISSUE A

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