

MOTOROLA
SEMICONDUCTOR
TECHNICAL DATA

T-74-07-01

The RF Line
Video Driver
Hybrid Amplifiers

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

- Typical 10–90% Transition Times are 2.5 ns
- 130 MHz Minimum Bandwidth at 40 V_{p-p} Output
- Low Power Consumption
- Excellent Grey-Scale Linearity
- Unconditional Stability
- All Gold (Monometallic) Metallization System for the Ultimate in Reliability
- Also Available In Reverse Polarity Version (–60 V Supply) For Grid Drive Applications. Part Numbers Are CR2424R And CR2425R.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	V _{CC}	70	V _{dc}
Case Operating Temperature Range	T _C	–20 to +100	°C
Storage Temperature Range	T _{stg}	–40 to +125	°C

ELECTRICAL CHARACTERISTICS (V_{CC} = 60 V, T_C = 25°C, C_{Load} = 8.5 pF, 40 V Peak-to-Peak output swing with 30 V_{dc} offset; R₁ = 215 ohms, C₁ = 90 pF typ.)

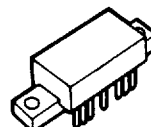
Characteristic	Symbol	Min	Typ	Max	Unit
Supply Current (With Input Open Circuited)	I _{CC}	39.5	43.5	47.5	mA
Input DC Voltage (With Input Open Circuited)	V _{inDC}	1.15	1.4	1.65	V
Output DC Voltage (With Input Open Circuited)	V _{outDC}	26	30	34	V
Voltage Gain (1) (2)	A _v	11.2	12.4	13.2	V/V
Transient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

NOTES:

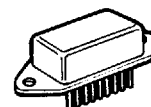
- (1) A_v = V_{out}/V_s
 (2) Input Signal is nominally a 62.5 kHz square wave of 3.25 V peak-to-peak with 1.4 V_{dc} offset. Input t_r, t_f < 1.0 ns.
 (3) Output is not short circuit protected.

CR2424
CR2424H
CR2425
2.5 ns
130 MHz
VIDEO DRIVER
HYBRID
AMPLIFIERS

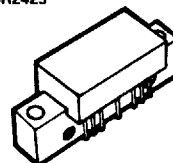
CR2424


 CASE 714G-01, STYLE 1
 (CA LP)

CR2424H


 CASE 826-01, STYLE 1
 (SIP)

CR2425


 CASE 714F-01, STYLE 1
 (CA)

TYPICAL CHARACTERISTICS

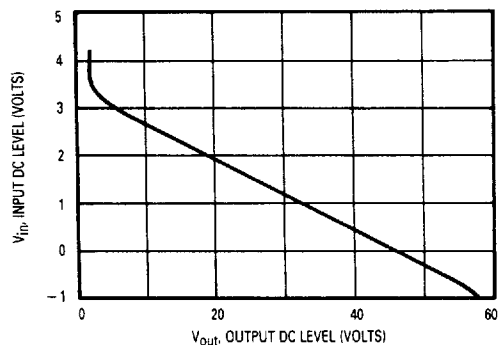


Figure 1. Voltage Ratio at RF Input Port

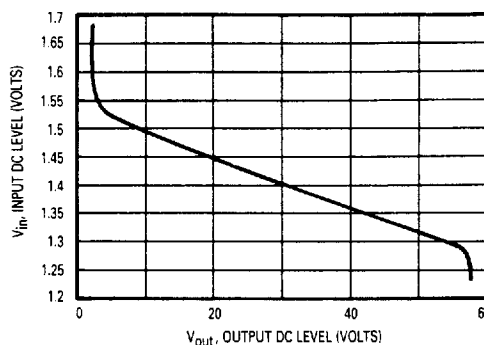


Figure 2. Voltage Ratio at Port 1

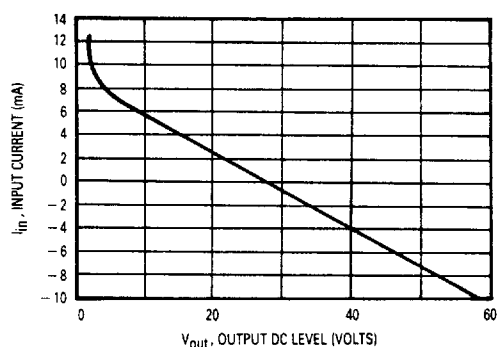


Figure 3. Output Voltage versus Input Current

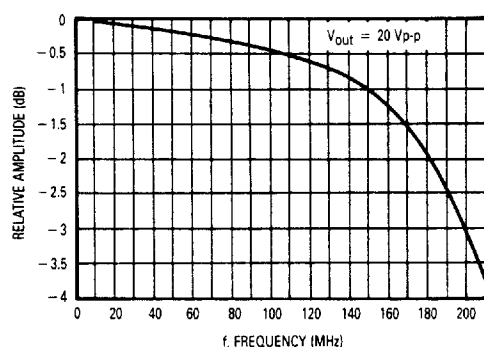


Figure 4. Frequency Response

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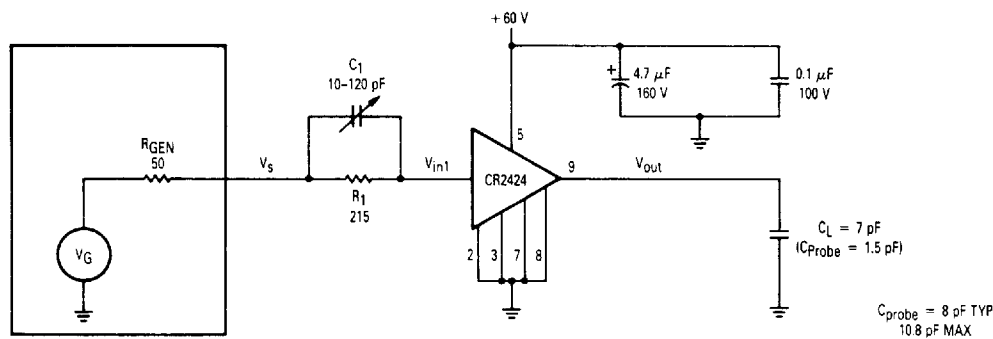


Figure 5. CRT Driver Test Circuit