

MOTOROLA

SEMICONDUCTOR

TECHNICAL DATA

The RF Line Video Driver Hybrid Amplifiers

- Designed Specifically for use as the Video Channel Final Stage in High Resolution Monitors
- Low Power Consumption
- Typical 10–90% Transitions Times are 2.7 ns
- 115 MHz Minimum Bandwidth at 40 V_{p-p} Output Swing
- Excellent Grey-Scale Linearity
- Unconditional Stability
- Gold Metallization System for the Ultimate in Reliability
- 80 Volt Supply Operation Provides Large DC Offset Range and Large Output Swing Capability for Color Applications
- Reverse Polarity Version CR3424R (Negative Supply) for Grid Drive Application

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	V _{CC}	90	Vdc
Case Operating Temperature Range	T _C	–20 to +100	°C
Storage Temperature Range	T _{stg}	–40 to +100	°C

ELECTRICAL CHARACTERISTICS (V_{CC} = 80 Vdc, T_C = 25°C, C_{Load} = 10 pF, R_I = 287 ohms, C_I = 60 pF Typ., V_{out} = 40 V Peak-to-Peak with 40 Vdc offset). See Figure 4 for test circuit.

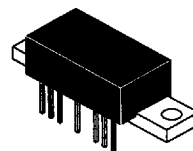
Characteristic	Symbol	Min	Typ	Max	Unit
Supply Current (With Input Open Circuited)	I _{CC}	41	45	49	mA
DC Input Voltage (With Input Open Circuited)	V _{inDC}	1.3	1.55	1.8	Vdc
DC Output Voltage (With Input Open Circuited)	V _{outDC}	36	40	44	Vdc
Voltage Gain (1) (2)	A _v	—	12.7	—	V/V
Transient Response (2)					
— Rise Time (10% to 90%)	t _r	—	2.7	3.1	ns
— Overshoot	V _{os,r}	—	—	10	%
— Fall Time (90% to 10%)	t _f	—	2.7	3.1	ns
— Overshoot	V _{os,f}	—	—	10	%
Bandwidth (–3.0 dB Point)		115	—	—	MHz
Operating Supply Current (V _{out} = 40 V Peak-to-Peak, 50 MHz Square Wave with 40 V offset) (3)	I _{CC, max}	—	—	100	mA
Linearity Error (V _{out} = +5.0 V to +55 V)	—	—	—	5.0	%

NOTES:

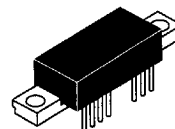
- A_v = V_{out}/V_s
- Signal source output signal (V_s in Figure 1) is nominally a 62.5 KHz square wave of 3.25 V peak-to-peak with 1.4 Vdc offset
- Output is not short circuit protected

CR3424A
CR3424R
CR3425A

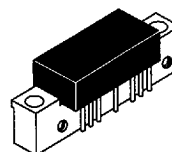
2.7 ns
115 MHz
VIDEO DRIVER
HYBRID
AMPLIFIERS



CASE 714G, STYLE 1
(CA LP)
CR3424A



CASE 714L, STYLE 1
(CA LP, NEGATIVE SUPPLY)
CR3424R



CASE 714F, STYLE 1
(CA)
CR3425A

TYPICAL CHARACTERISTICS

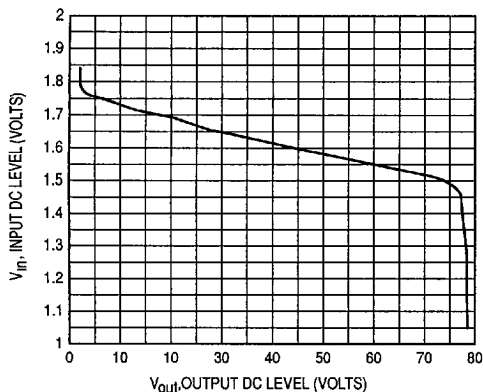
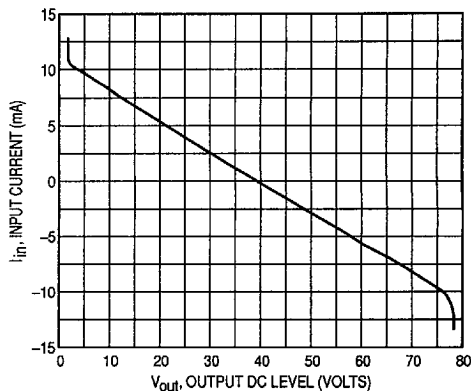
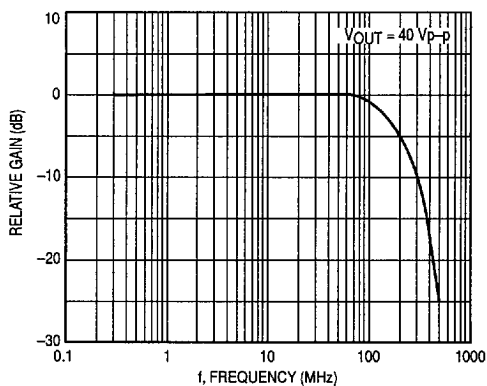
Figure 1. V_{in} versus V_{out} Figure 2. I_{in} versus V_{out} 

Figure 3. Frequency Response

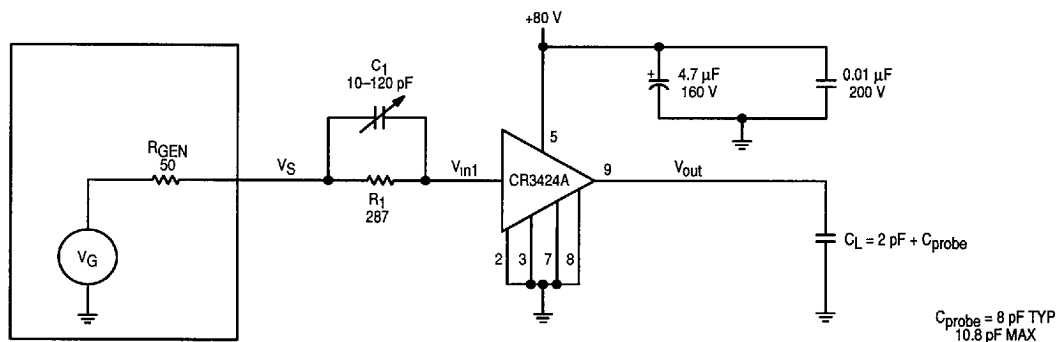


Figure 4. Hybrid Amplifier Test Circuit