

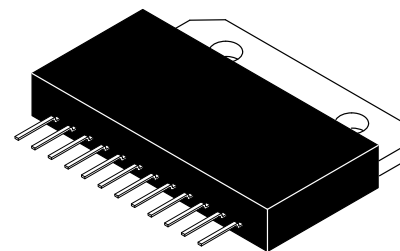
## The RF Line Triple Video Output Hybrid Amplifier

A high performance triple video output amplifier designed specially for use as the video channel final stage in high resolution color monitors.

- Typical 10–90% Transitions Times are 2.5 ns
- Supports Video Clock Rates up to 250 MHz
- Up to 60 V<sub>p-p</sub> Output Swing with 70 V Supply Voltage
- Low Power Consumption
- Excellent Gray–Scale Linearity
- Unconditional Stability
- Gold Metallization System for the Ultimate in Reliability

**MHW3828**

**2.5 ns  
TRIPLE VIDEO OUTPUT  
HYBRID  
AMPLIFIER**



CASE 455-01, STYLE 1

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	V <sub>CC</sub>	+80	Vdc
Operating Case Temperature Range	T <sub>C</sub>	–20 to +100	°C
Storage Temperature Range	T <sub>stg</sub>	–40 to +100	°C

**ELECTRICAL CHARACTERISTICS** (T<sub>C</sub> = 25°C, V<sub>CC</sub> = 70 V, C<sub>LOAD</sub> = 10 pF, 40 V Peak-to-Peak Output Swing with 35 Vdc Offset; R<sub>1</sub> = 390 Ω, C<sub>1</sub> = 39 pF Typ)

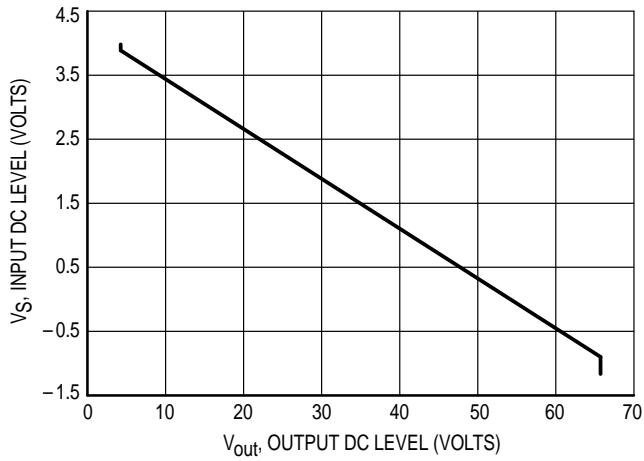
Characteristic	Symbol	Min	Typ	Max	Unit
Supply Current (With Input Open Circuited) Per Channel	I <sub>CC</sub>	29	33	37	mA
Input DC Voltage (With Input Open Circuited)	V <sub>inDC</sub>	1.2	1.5	1.8	V
Input DC Voltage (With Input Open Circuited)	V <sub>outDC</sub>	32	35	38	V
Voltage Gain (1) (2)	A <sub>V</sub>	11	12.5	14	V/V
Transient Response (2)					
— Rise Time (10% to 90%)	t <sub>r</sub>	—	2.3	2.7	ns
— Overshoot	V <sub>OS,r</sub>	—	5.0	10	%
— Fall Time (90% to 10%)	t <sub>f</sub>	—	2.5	2.9	ns
— Overshoot	V <sub>OS,f</sub>	—	5.0	10	%
Operating Supply Current per Channel @ 50 MHz Square Wave (3)	I <sub>CC</sub>				mA
(V <sub>out</sub> = 40 V <sub>p-p</sub> and 35 V offset)		—	68	—	
(V <sub>out</sub> = 50 V <sub>p-p</sub> and 35 V offset)		—	78	—	
Linearity Error (V <sub>out</sub> = 5.0 V to +65 V)	—	—	—	5.0	%

(1) A<sub>V</sub> = V<sub>out</sub>/V<sub>S</sub>

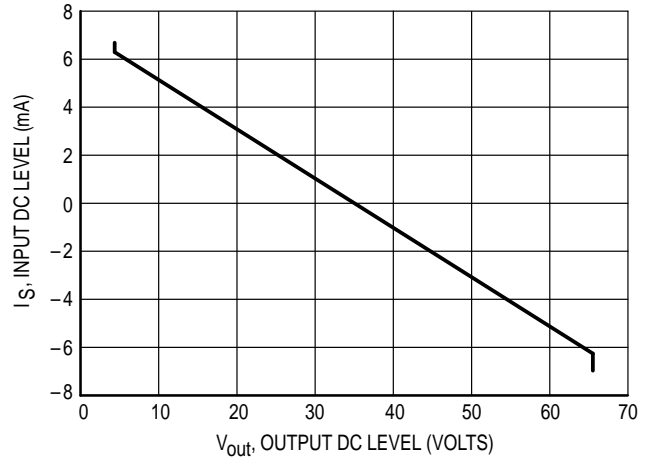
(2) Input Signal is normally a 62.5 kHz square wave of 3.2 V peak-to-peak with 1.5 Vdc offset. Input t<sub>r</sub>, t<sub>f</sub> < 1.0 ns.

(3) Output is not short circuit protected.

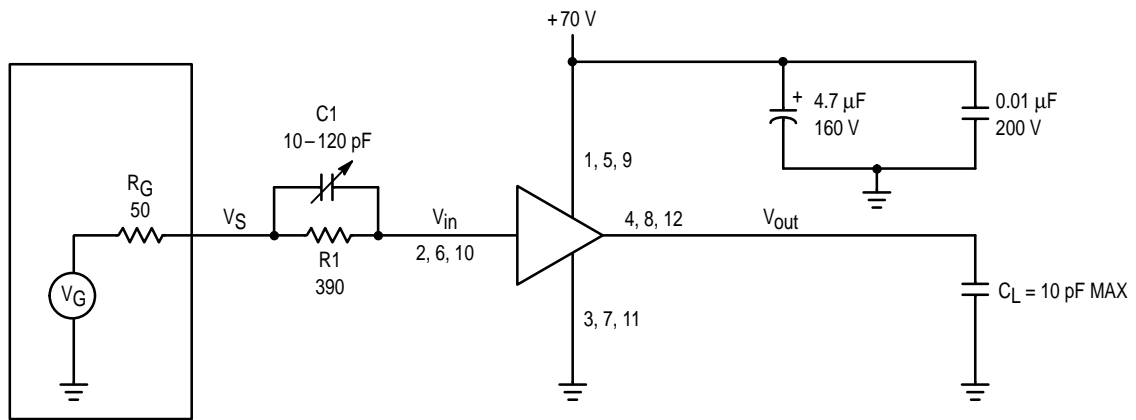
## TYPICAL CHARACTERISTICS



**Figure 1.  $V_S$  versus  $V_{out}$**

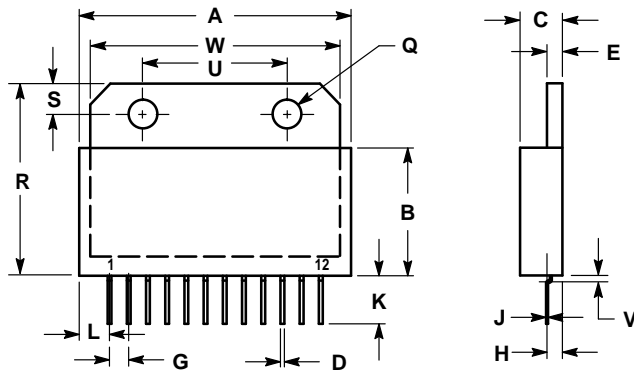


**Figure 2.  $I_S$  versus  $V_{out}$**



**Figure 3. Hybrid Amplifier Test Circuit**

## PACKAGE DIMENSIONS



**NOTES:**


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

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	—	1.415	—	35.94
B	—	0.665	—	16.89
C	0.210	0.225	5.33	5.72
D	0.020	—	0.51	—
E	0.070	0.085	1.78	2.16
G	0.095	0.105	2.41	2.67
H	0.065	0.085	1.65	2.16
J	0.010	—	0.25	—
K	0.250	—	6.33	—
L	0.150	0.160	3.81	4.06
Q	0.140	0.155	3.56	3.94
R	0.995	1.015	25.27	25.78
S	0.155	0.165	3.94	4.19
U	0.745	0.755	18.92	19.18
V	—	0.025	—	0.64
W	1.295	1.305	32.89	33.15

**STYLE 1:**

- PIN 1. +VCC
- 2. VIN
- 3. GROUND
- 4. VOUT
- 5. +VCC
- 6. VIN
- 7. GROUND
- 8. VOUT
- 9. +VCC
- 10. VIN
- 11. GROUND
- 12. VOUT

**CASE 455-01  
ISSUE A**

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MHW3828/D

