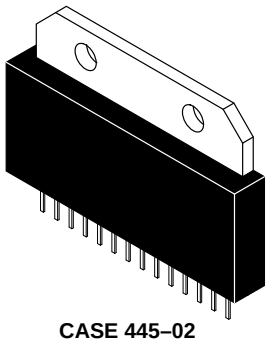
MHW3528

The RF Line
Triple Video Driver Hybrid Amplifier

2.7 ns
120 MHz
TRIPLE VIDEO DRIVER HYBRID AMPLIFIER

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

- 80 V Supply Operation Provide Large DC Offset Range for Color Applications
- Typical 10–90% Transitions Times are 2.7 ns
- 120 MHz Minimum Bandwidth at 40 Vp–p Output
- Up to 70 Vp–p Output Swing with 80 V Supply Voltage
- Low Power Consumption
- Excellent Grey–Scale Linearity
- Unconditional Stability
- Gold Metallization System for the Ultimate in Reliability



CASE 445–02
Style 1

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	V_{CC}	90	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} = 80 V, C_{LOAD} = 10 pF, 40 V peak–to–peak output swing with 40 Vdc offset; R_1 = 287 ohms, C_1 = 60 pF Typ)

Characteristic	Symbol	Min	Typ	Max	Unit
Supply Current (With Input Open Circuited) Per Channel	I_{CC}	41	45	49	mA
Input DC Voltage (With Input Open Circuited)	V_{inDC}	1.3	1.55	1.8	V
Output DC Voltage (With Input Open Circuited)	V_{outDC}	36	40	44	V
Voltage Gain (1) (2)	A_V	—	12.7	—	V/V
Transient Response (2) — Rise Time (10% to 90%) — Overshoot — Fall Time (90% to 10%) — Overshoot	 t_r $V_{OS,r}$ t_f $V_{OS,f}$	 — — — —	 2.7 8.0 2.7 6.0	 3.1 10 3.1 10	 ns % ns %
Operating Supply Current per Channel (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 normally a 62.5 KHz square wave of 3.2 V peak–to–peak with 1.5 Vdc offset. Input t_r, t_f < 1.0 ns.
3. Output is not short circuit protected.

TYPICAL CHARACTERISTICS

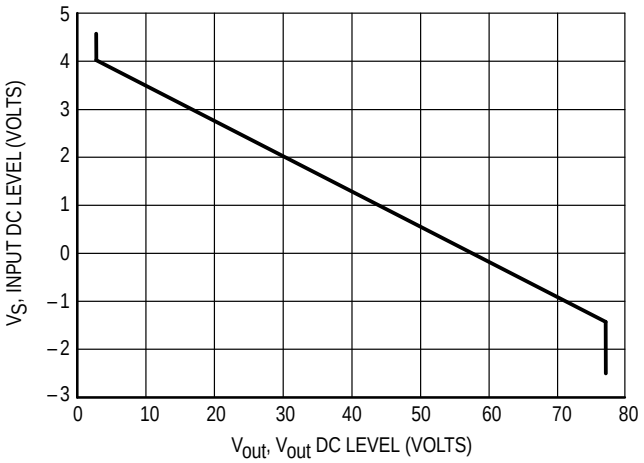


Figure 1. V_S versus V_{out}

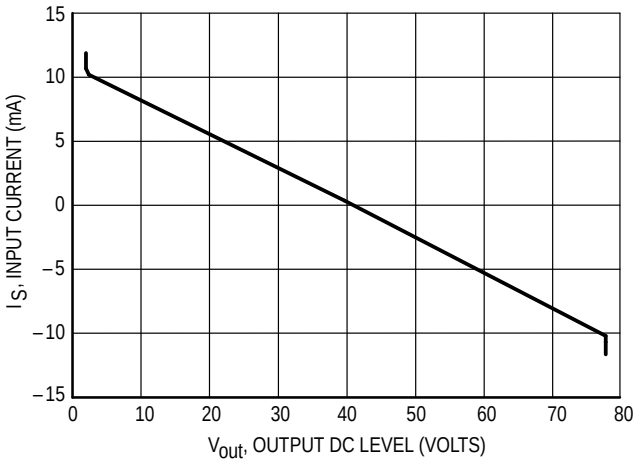


Figure 2. I_S versus V_{out}

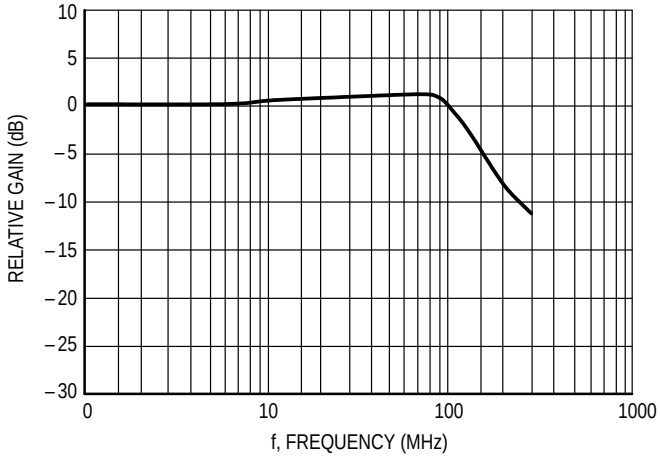


Figure 3. Frequency Response

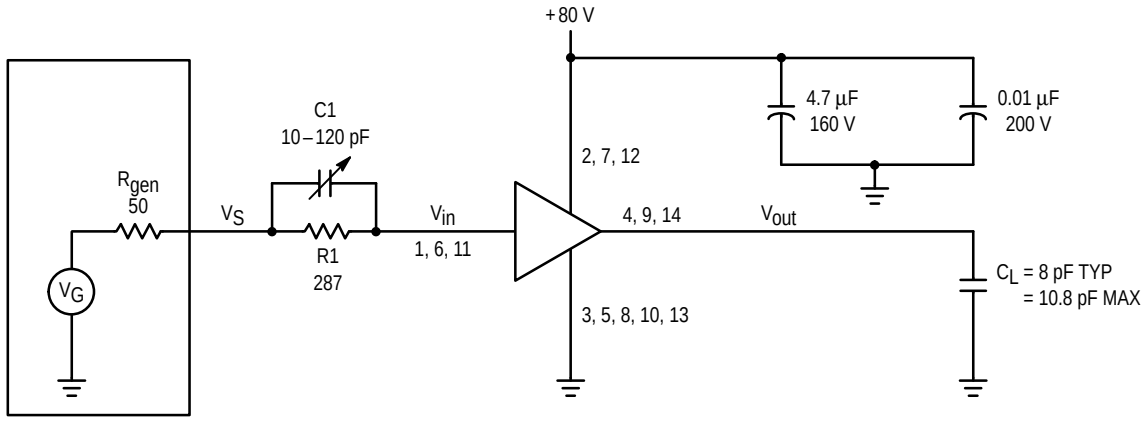
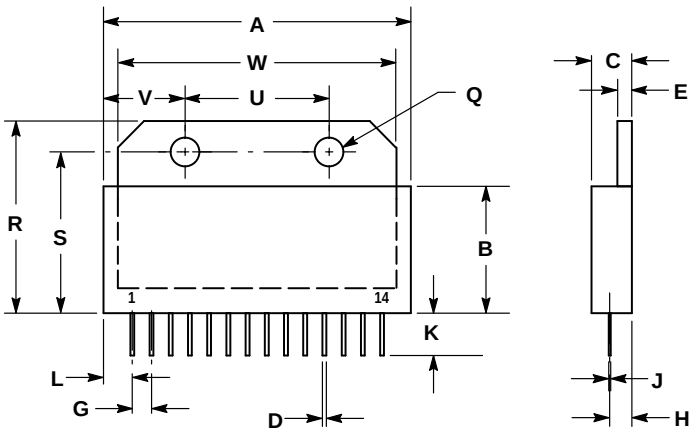


Figure 4. Hybrid Amplifier Test Circuit

PACKAGE DIMENSIONS



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

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	——	1.570	——	39.88
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	0.105	0.130	2.67	3.30
J	0.010	——	0.25	——
K	0.210	0.230	5.33	5.84
L	0.120	0.145	3.05	3.68
Q	0.140	0.155	3.56	3.94
R	0.995	1.015	25.27	25.78
S	0.835	0.855	21.21	21.72
U	0.745	0.755	18.92	19.18
V	0.385	0.415	9.78	10.54
W	1.440	1.455	36.58	36.96

STYLE 1:
PIN 1. V_{IN}
2. $+V_{CC}$
3. GROUND
4. V_{OUT}
5. GROUND
6. V_{IN}
7. $+V_{CC}$
8. GROUND
9. V_{OUT}
10. GROUND
11. V_{IN}
12. $+V_{CC}$
13. GROUND
14. V_{OUT}

CASE 445–02
ISSUE A

How to reach us:
USA / EUROPE: Motorola Literature Distribution;
P.O. Box 20912; Phoenix, Arizona 85036. 1–800–441–2447

MFAX: RMFAX0@email.sps.mot.com – TOUCHTONE (602) 244–6609
INTERNET: http://Design–NET.com

JAPAN: Nippon Motorola Ltd.; Tatsumi–SPD–JLDC, Toshikatsu Otsuki,
6F Seibu–Butsuryu–Center, 3–14–2 Tatsumi Koto–Ku, Tokyo 135, Japan. 03–3521–8315

HONG KONG: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852–26629298