MOTOROLA
SEMICONDUCTOR TECHNICAL DATA

Order this document
by MHW3628/D

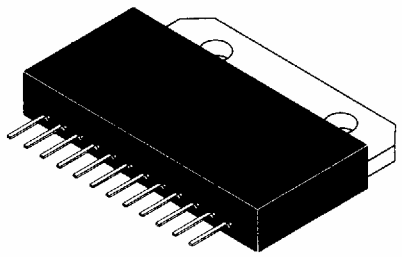
MHW3628

3.0 ns
TRIPLE VIDEO DRIVER
HYBRID
AMPLIFIER

The RF Line
Triple Video Driver Hybrid Amplifier

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

- Typical 10–90% Transitions Times are 3.0 ns
- 110 MHz – 3.0 dB Bandwidth at 40 Vp–p Output
- 220 MHz Pixel Frequency
- Up to 60 Vp–p Output Swing with 70 V Supply Voltage
- Low Power Consumption
- Excellent Gray–scale Linearity
- Unconditional Stability
- Gold Metallization System for the Ultimate in Reliability



CASE 455–01, STYLE 1

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	V_{CC}	80	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} = 70 V, C_{LOAD} = 10 pF, 40 V Peak–to–Peak Output Swing with 35 Vdc Offset, R_1 = 287 Ω, C_1 = 60 pF Typ)

Characteristic	Symbol	Min	Typ	Max	Unit
Supply Current (With Input Open Circuited) Per Channel	I_{CC}	33	37	41	mA
Input DC Voltage (With Input Open Circuited)	V_{inDC}	1.15	1.4	1.65	V
Input DC Voltage (With Input Open Circuited)	V_{outDC}	32	33	37	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 $V_{OS,f}$	 — — — —	 3 0 2.0 2.8 2.0	 3.4 7 0 3.2 7.0	 ns % ns %
Operating Supply Current per Channel (V_{out} = 40 V Peak–to–Peak, 50 MHz Square Wave with 40 V Offset) (3)	I_{CC}	—	70	—	mA
Linearity Error (V_{out} = 5.0 V to +75 V)	—	—	—	5.0	%

(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 1.4 Vdc offset. Input t_r, t_f < 1.0 ns

(3) Output is not short circuit protected

TYPICAL CHARACTERISTICS

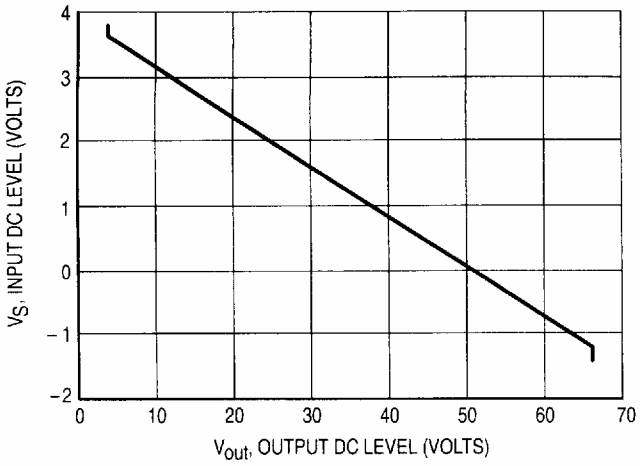


Figure 1. V_S versus V_{out}

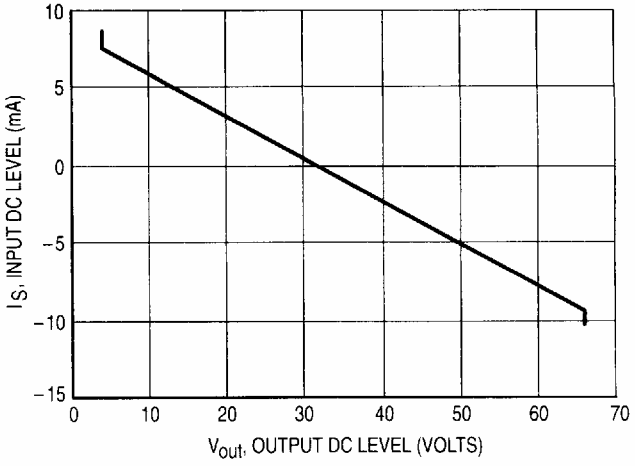


Figure 2. I_S versus V_{out}

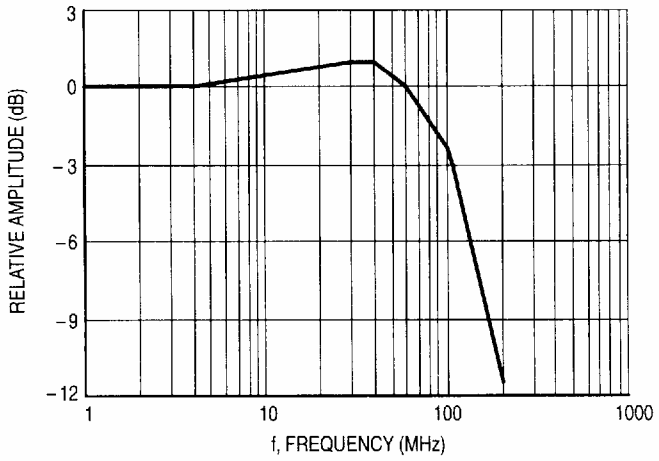


Figure 3. Frequency Response

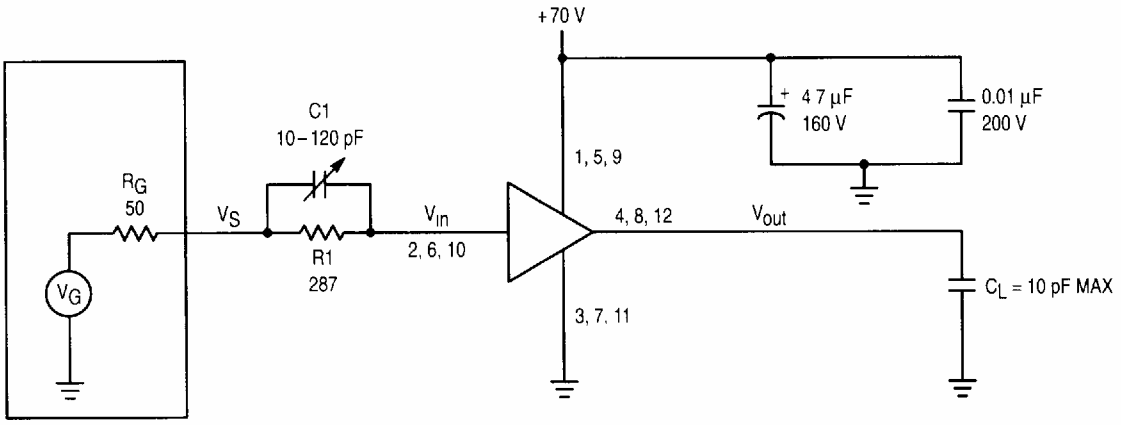
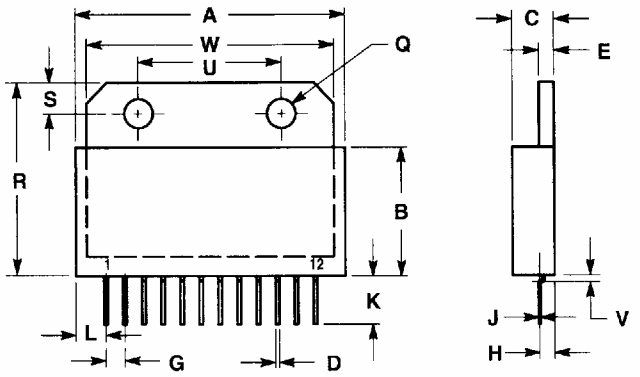


Figure 4. Hybrid Amplifier Test Circuit

PACKAGE DIMENSIONS



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

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	—	1.415	—	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	—	5.33	—
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 O