

# DATA SHEET

**CR1296**

**Triple video driver hybrid amplifier**

Product specification  
File under Discrete Semiconductors, SC05

1997 Jul 09

## Triple video driver hybrid amplifier

CR1296

## FEATURES

- Cascode configuration
- Typical voltage gain of 15
- Directly driven by pre-amplifier: no buffer required
- Typical transition times (10 to 90%) with  $C_L = 10$  pF at 50 V<sub>(p-p)</sub> swing:  $t_r = 5$  ns;  $t_f = 2.5$  ns
- Typical small signal bandwidth 140 MHz
- Suited for both AC and DC coupling.

## APPLICATIONS

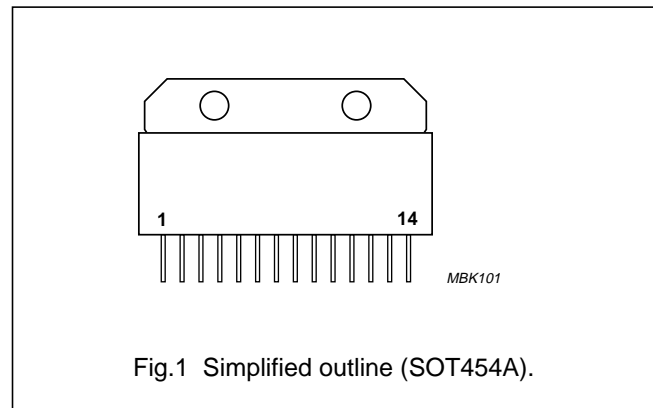
- Cathode-ray tube (CRT) drivers in high-resolution colour monitors.

## DESCRIPTION

Hybrid amplifier module in cascode configuration comprising three video amplifiers in a SOT454A package.

## PINNING - SOT454A

PIN	DESCRIPTION
1	input A
2	compensation A
3	output A
4	ground
5	output B
6	compensation B
7	input B
8	supply voltage 1 ( $V_{S1}$ ) (8 V)
9	ground
10	supply voltage 2 ( $V_{S2}$ ) (8 V)
11	input C
12	compensation C
13	output C
14	supply voltage 3 ( $V_{S3}$ ) (80 V)



## LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{S1}$	power supply voltage (DC)		–	10	V
$V_{S2}$	power supply voltage (DC)		–	10	V
$V_{S3}$	power supply voltage (DC)		–	90	V
$T_{mb}$	operating mounting base temperature	note 1	–20	+100	°C
$T_{stg}$	storage temperature		–40	+125	°C

## Note

1. The module flange is the mounting base.

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**CHARACTERISTICS**

$V_{S1} = V_{S2} = 8\text{ V}$ ;  $V_{S3} = 80\text{ V}$ ;  $T_{mb} = 25\text{ }^\circ\text{C}$ ;  $C_L = 10\text{ pF}$ ; output swing =  $50\text{ V}_{(p-p)}$  with  $45\text{ V}$  DC offset; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$t_r$	rise time transient response	10 to 90%; note 1	–	5	6	ns
$t_f$	fall time transient response	10 to 90%; note 1	–	2.5	3.5	ns
BW	small signal bandwidth	between $-3\text{ dB}$ points; note 2	–	140	–	MHz
NLN	non-linearity	$V_O = 15\text{ to }75\text{ V}$	–	2	5	%
$A_V$	DC voltage gain		14	15	16	

**Notes**

1. Input signal delivered by pre-IC:  $t_r \leq 1\text{ ns}$ ;  $t_f \leq 1\text{ ns}$ ;  $V_{i(p-p)} = 3.3\text{ V}$ ; see Fig. 2.
2. Sinewave output signal:  $1\text{ V}_{(p-p)}$ .

**APPLICATION INFORMATION**

Application information is available in Application note AN96074 'Video Amplifier Board with TDA4885 and CR1296'. A copy of this report can be requested via the local sales office.

Heatsink design is supported by Figs. 3, 4 and 5.

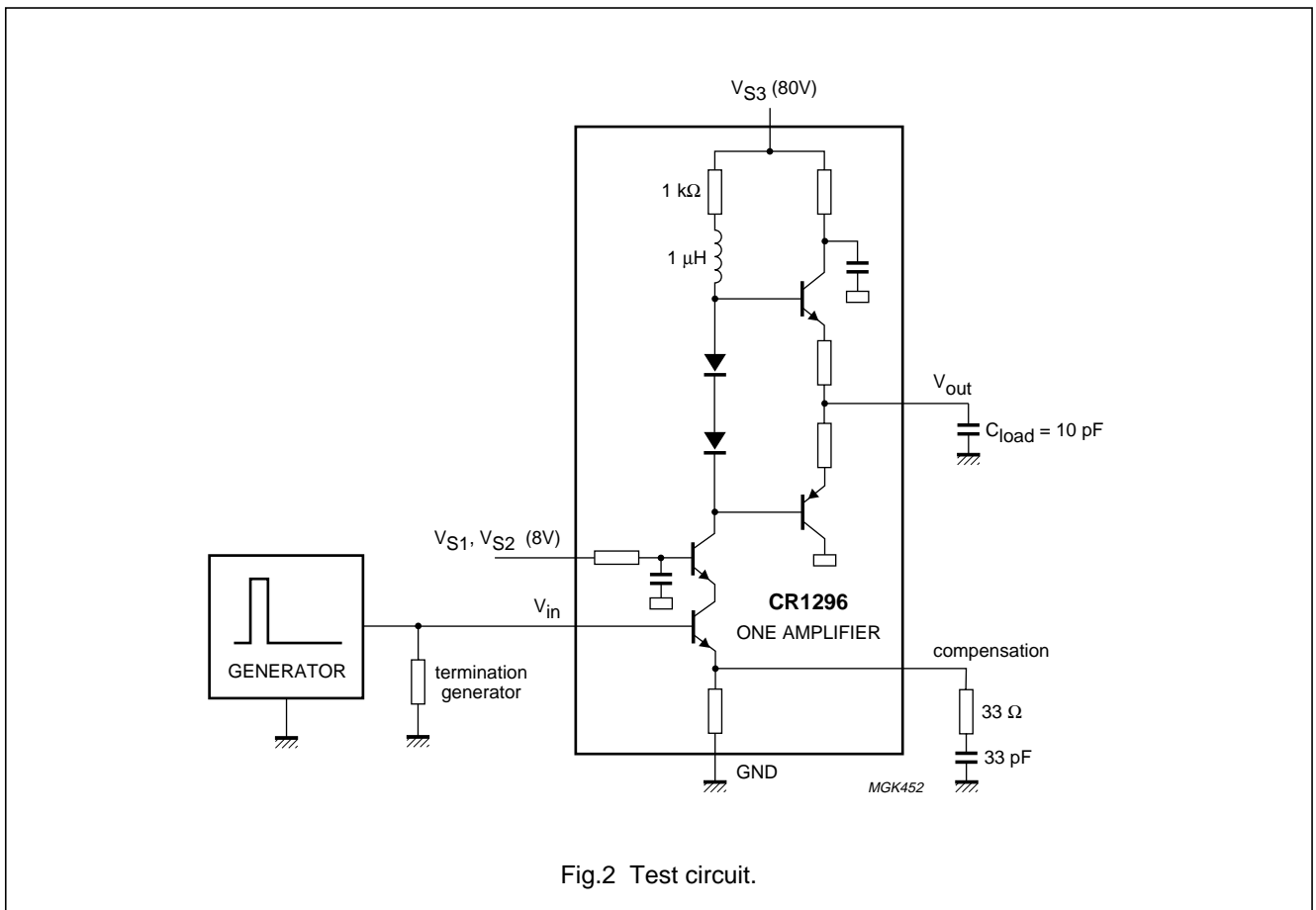
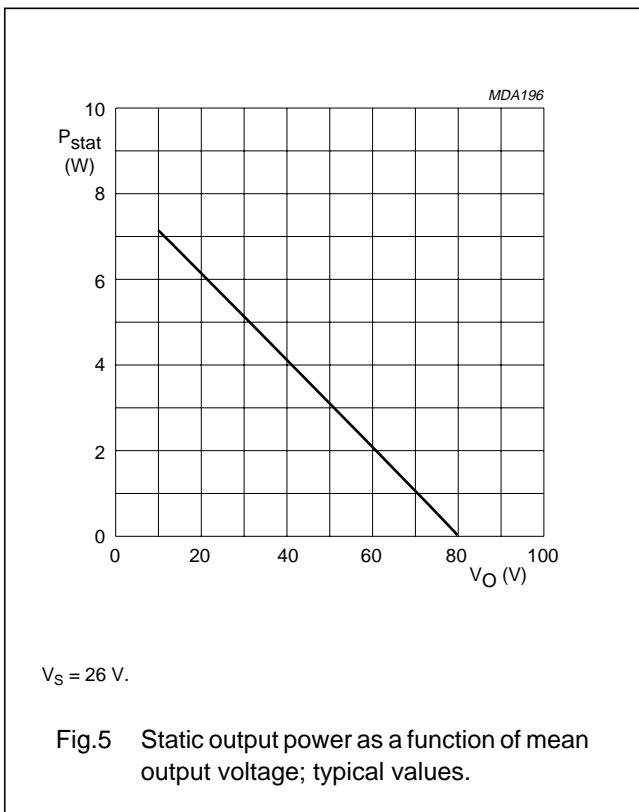
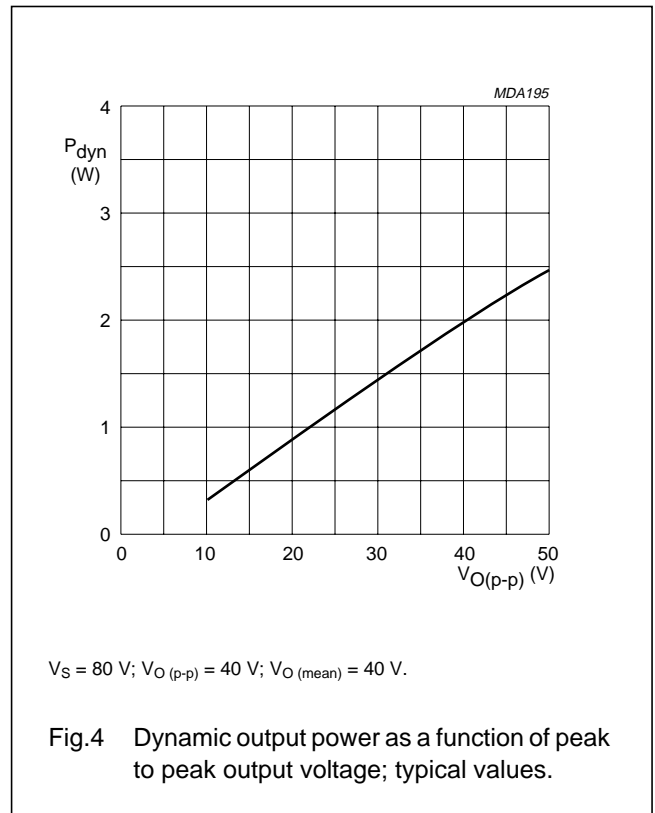
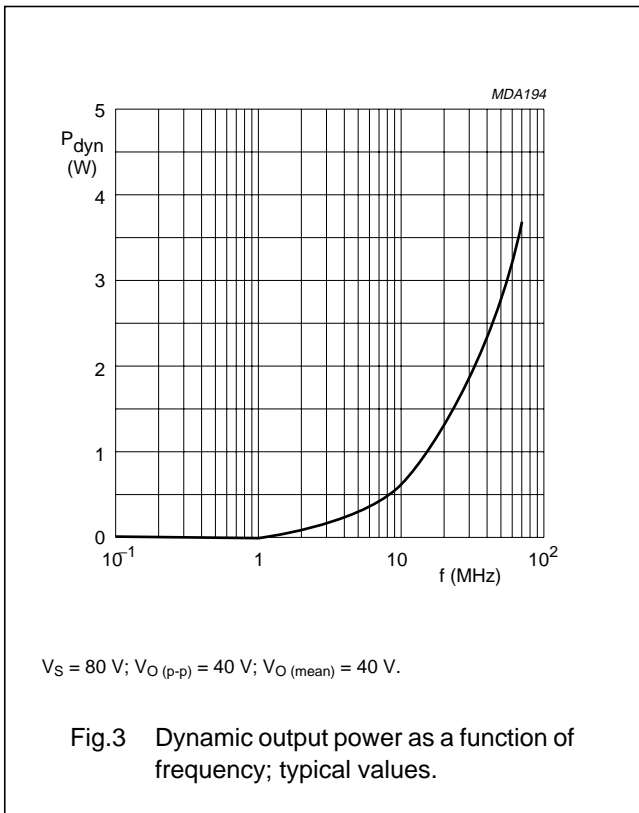


Fig.2 Test circuit.

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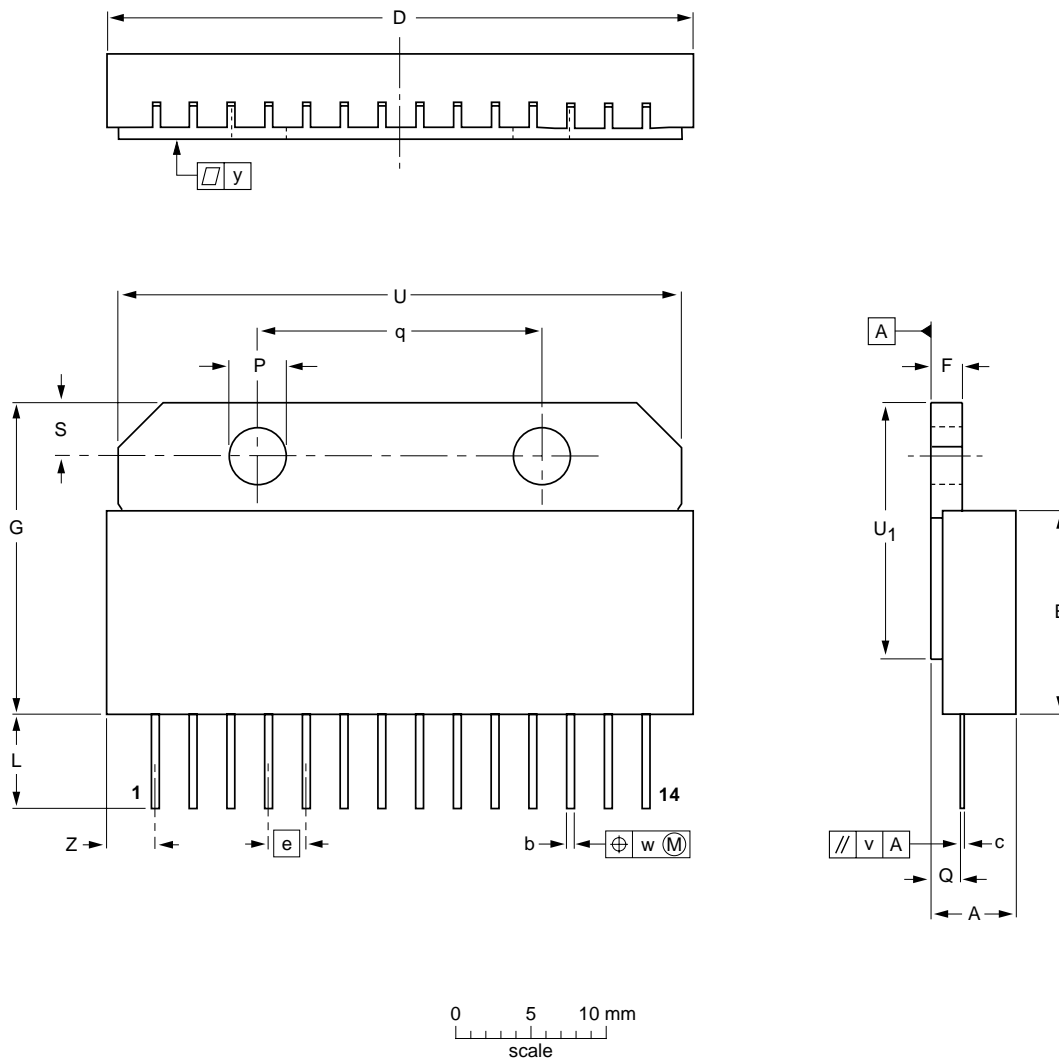
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PACKAGE OUTLINE

Ceramic single-ended flat package; heatsink mounted; 2 mounting holes;  
14 in-line tin (Sn) plated leads

SOT454A



DIMENSIONS (mm are the original dimensions)

UNIT	A	b	c	D max.	E	e	F	G max.	L min.	P	Q	q	S	U max.	U <sub>1</sub>	v	w	y	Z
mm	5.9 5.5	0.5	0.25	39.6	13.7	2.54	2.1 1.9	21.2	6	4.15 3.85	2.9 2.5	19	3.5	37.8	18.3	0.3	0.25	0.1	3.4 3.0

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT454A						97-07-01

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**DEFINITIONS**

<b>Data Sheet Status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

**LIFE SUPPORT APPLICATIONS**

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