

VPA07

FBET Hybrid IC
Video Pack (VPA Series)
Video Output Amplifiers for
High-Resolution CRT Displays

Overview

The VPA07 is an Video Output Amplifier for a High-Resolution Monochrome or RGB CRT Display integrates a complete amplifier using high-precision FBET and LSBT transistor chips into a single IC, allowing high-output voltage wide-bandwidth video output amplifier circuits to be implemented with greatly reduced parts count. The result is that cost reduction and saving board space can be realized.

The VPA07's 9-pin metal SIP package also minimizes EMI problems and simplifies circuit board design.

The 70MHz bandwidth makes the VPA07 ideally suited for use with 48-56kHz line frequency monitors.

A supply voltage of 80V is typical. The VPA07 is one of the devices in a series of Sanyo's IC that cover the complete range of video output amplifier applications - from low-end CAD/CAM monitors, High-end business graphics (S-MAC) to externally high-resolution graphics displays. Evaluation samples are available.

For 48-56KHz line frequency RGB color monitor oriented applications, refer to the VPM series (VPM06/VPM07 include 3CH type) video output amplifier system data sheets (Under Development).

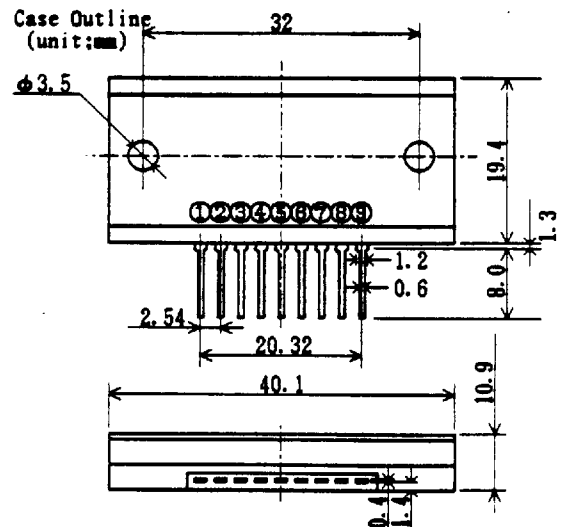
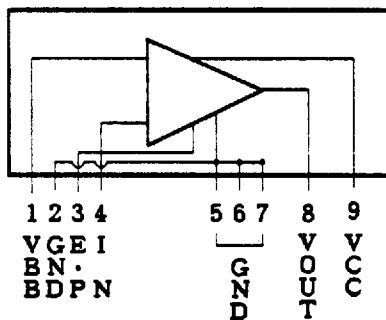
Features

- High performance
- Up to 50V_{p-p} output voltage
- 70MHz typical bandwidth
- Simplifies circuit design
- Compact package
- Metal casing reduces EMI

Absolute Maximum Ratings at Ta=25°C

		unit
Maximum Supply Voltage	VCC	120 V
	VBB	15 V
Allowable Power Dissipation	PD (Ta=25°C)	3.5 W
	PD (Tc=25°C)	20 W
Junction Temperature	T _J	150 °C
Operating Temperature	Ta(op)	85 °C
Storage Temperature	Tstg	-20 to 110 °C

Connection and Outline



Specifications and information herein are subject to change without notice.

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VPA07(Video Pack)

Recommended Operating Conditions at Ta=25°C

Condition	VCC	VBB	Vout	Vin(DC)	unit
Condition 1			-40Vp-p	1.9V	80 V
					10 V
Condition 2			-50Vp-p	2.0V	90 V
					10 V

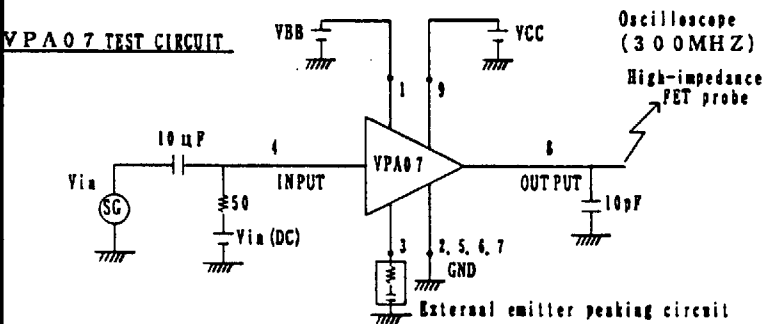
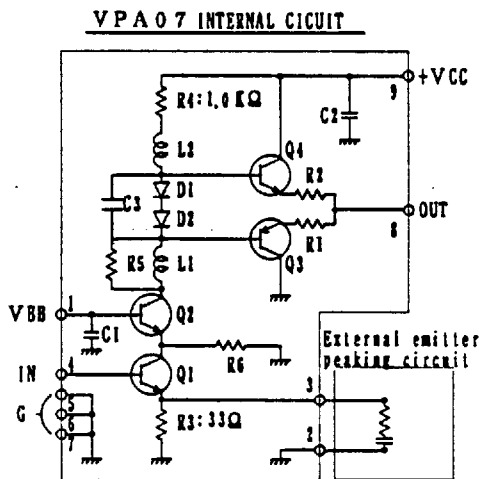
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Condition	Vout	min	typ	max	unit
Frequency Bandwidth	f _c (-3dB)	Condition 1	40Vp-p	65	70		MHz
		Condition 2	50Vp-p	60	65		MHz
Voltage Gain	VG(DC)			26	29	32	times
Current Dissipation	I _{CC} (1)	Condition 1	f=10MHz clock		44		mA
	I _{CC} (2)	Condition 1	f=70MHz clock		62		mA
	I _{CC} (3)	Condition 2	f=10MHz clock		50		mA
	I _{CC} (4)	Condition 2	f=70MHz clock		73		mA
Rise Time	Tr	Condition 1	10% to 90%		9.4		nS
Fall Time	Tf	Condition 1	10% to 90%		7.6		nS

(Note) Under Test Board Condition

- Emitter peaking: R_e= 47Ω, C_e= 68PF
- Capacitive load: 10PF

Equivalent Circuit



Precautions

- 1) Do not short the pins, or degradation may occur.
- 2) On heat sink design and test board condition, refer to the technical document "Sanyo Video Pack".
- 3) Case is connected to the internal GND.
- 4) The mounting torque should be in the range of 4 to 6Kg·cm.

