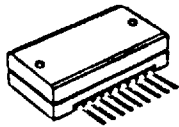


**SANYO**



# VPH03

FBET Hybrid IC  
Video Pack (VPH Series)  
Video Output Amplifiers  
For High-Definition TV

## Overview

The VPH03 is Video Output Amplifier for a High-Definition TV integrates a complete amplifier using high-precision FBET and LSBT transistor chips into a single IC, allowing very 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. VPH03's 9-pin metal SIP package also minimizes EMI problems and simplifies circuit board design.

The 30MHz bandwidth makes the VPH03 ideally suited for use with 32kHz line frequency HDTV. A supply voltage of 150V is typical.

The VPH03 is one of the devices in a series of Sanyo's IC that cover the complete range of video output amplifier applications - - from next generation HDTV to externally high resolution TV.

Evaluation samples are available in the near future.

For EDTV/ATV/MAC projection applications, refer to the VPH01 Video Output Amplifier system data sheets, and HDTV & graphics projection oriented use applications is VPH05 Video Output Amplifier.

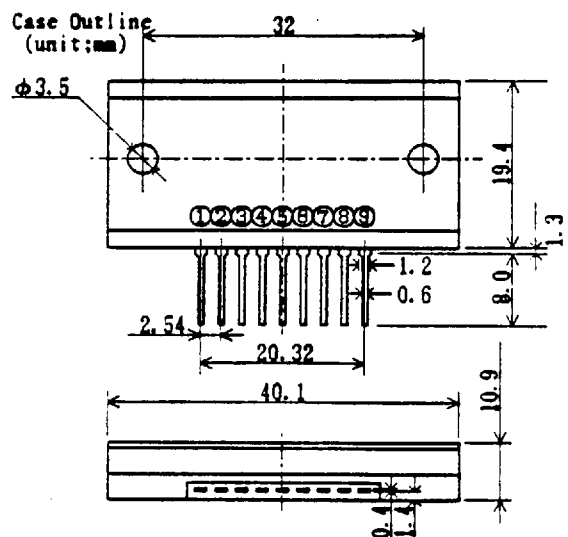
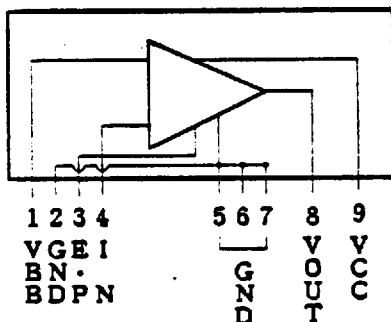
## Features

- High performance
- Up to 100Vp-p output voltage
- 30MHz typical bandwidth
- Simplifies circuit design
- Compact package
- Metal casing reduces EMI

## Absolute Maximum Ratings at Ta=25°C

		unit
Maximum Supply Voltage	VCC	230 V
	VBB	20 V
Allowable Power Dissipation	PD (Ta=25°C)	3.5 W
	PD (Tc=25°C)	20 W
Junction Temperature	Tj	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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VPH03 (Video Pack)

Recommended Operating Conditions at Ta=25°C

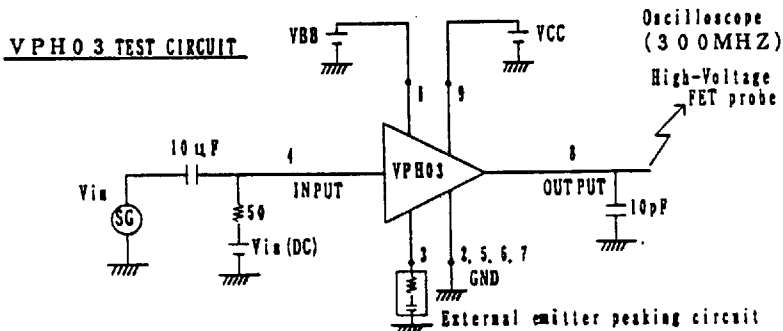
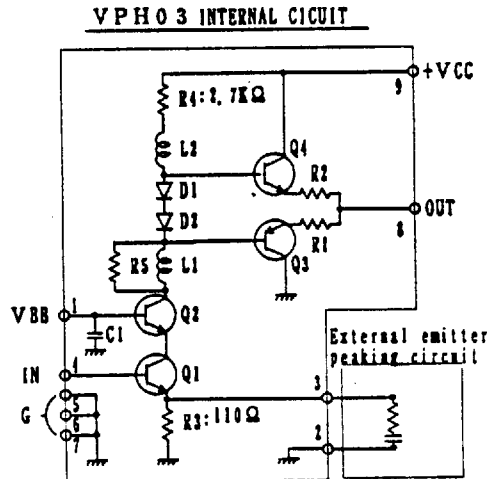
Condition	VCC	VBB	Vout	Vin(DC)	unit
Condition 1	VCC	VBB	Vout = 100Vp-p	3.3V	150 V
			Vin(DC) = 3.3V		12 V
Condition 2	VCC	VBB	Vout = 150Vp-p	4.3V	200 V
			Vin(DC) = 4.3V		12 V

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Condition	Vout	min	typ	max	unit
Frequency Bandwidth	fc(-3dB)	Condition 1	Vout=100Vp-p	27	30		MHz
		Condition 2	Vout=150Vp-p	25	27		MHz
Voltage Gain	VG(DC)			23	26	29	times
Current Dissipation	ICC(1)	Condition 1	f=10 MHz clock		40		mA
	ICC(2)	Condition 1	f=30 MHz clock		58		mA
	ICC(3)	Condition 2	f=10 MHz clock		57		mA
	ICC(4)	Condition 2	f=30 MHz clock		82		mA

(Note) Under Test Board Condition  
 [ Emitter peaking: Re=62Ω, Ce=160PF  
 [ 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

