

High performance guaranteed: Reduction of turnaround time and EMI-free systems

Video Packs

Hybrid intergrated circuits/with FBET/LSBT process chips/Wide bandwidth video output ICs

Year by year, there is an ever-increasing demand for higher-resolution CRT displays and a corresponding demand for wider bandwidth video output circuits for these displays.

Up till now, however, it has been difficult to design these circuits efficiently because component technology peculiar to designing high frequency circuits has been unavailable.

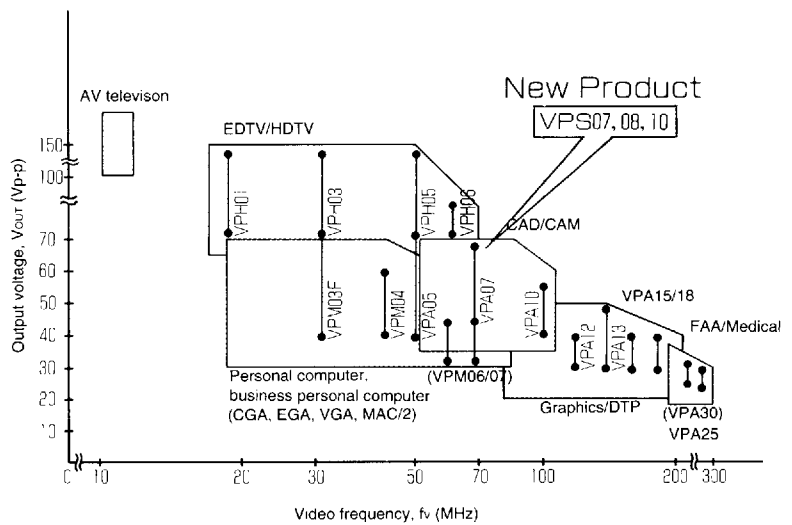
Sanyo has solved this problem with the introduction of the VPA series "Video Pack products." VPA series products comprise bare-chip video output transistors, developed using Sanyo's FBET/LSBT process technology, and feature bandwidths up to 180 MHz.

Recently, there has been an increasing demand in audiovisual systems for larger screens with higher resolution. These all require large amplitude characteristics over a wide frequency bandwidth.

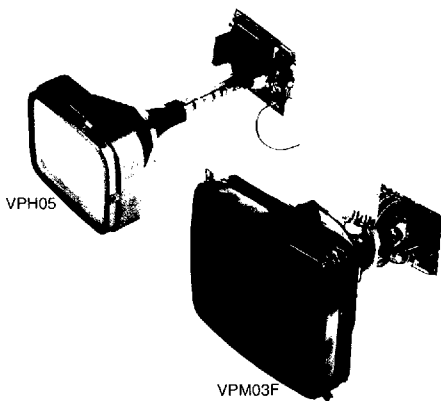
Sanyo has developed high output products (VPH series) to meet these needs in applications from AV television to high-vision. We have also added another series of products to our product line-up which feature high-density mounting for use in personal computer displays. These products, the "VPM series with heatsink", have three high-output channels per pack.

The Sanyo product line-up reduces turnaround time and ensures good repeatability.

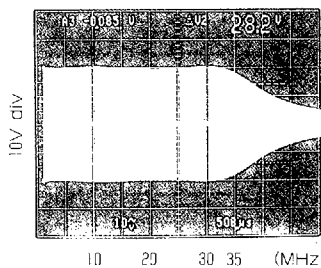
Video Pack application map



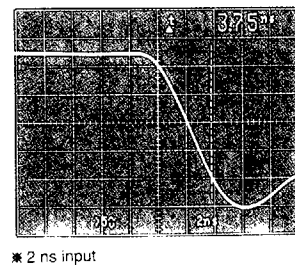
Video Pack mounting example



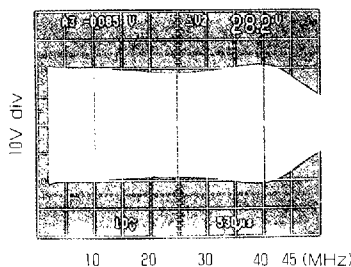
VPM03/03F (Ch. 1)
Sweep output waveform



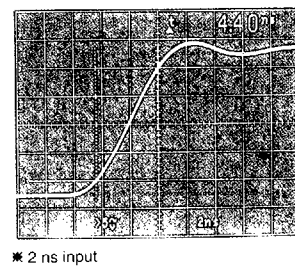
VPA12
Output pulse response (tr)

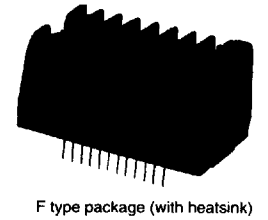
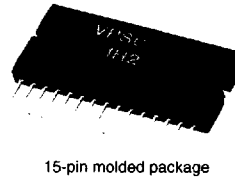
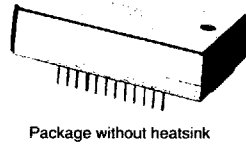
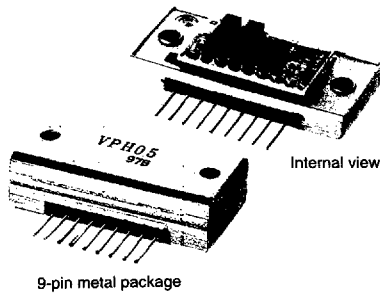


VPM04/04F (Ch. 1)
Sweep output waveform



VPA12
Output pulse response (tr)





● Recommended Video Pack line-up for CRT displays

* Under development

| Application field (horizontal deflection frequency) | Type No. | Maximum supply voltage V _{CC} max (V) | Video frequency | | | Gain (D·C) | No. of channels | Package type | | |
|--|---------------------|---|---------------------------|--------------------------------------|---------------------|------------|--|-----------------------|--|--|
| | | | f _v (typ -3dB) | | | | | | | |
| | | | (MHz) | V _{OUT} (V _{p-p}) | V _{CC} (V) | | | | | |
| Personal computers | VPM03 | 160 | 30 | 60 | 100 | 26 | F: Heatsink provided No indicator: Without heatsink | | | |
| | VPM03F | 120 | 30 | 50 | 90 | 26 | | | | |
| Business computers (up to 48 kHz) | VPM04 | 120 | 45 | 50 | 90 | 19 | | | | |
| | VPM04F | 120 | 45 | 40 | 80 | 19 | | | | |
| | VPM05 | 120 | 50 | 40 | 80 | 19 | | | | |
| CAD/CAM (48 to 56 kHz) | VPM06 | 120 | 60 | 40 | 80 | 19 | | 15-pin molded package | | |
| | VPM07 | 120 | 70 | 40 | 90 | 19 | | | | |
| | VPS07 | 120 | 70 | 50 | 90 | 22 | | | | |
| | VPS08 | 120 | 80 | 50 | 90 | 20 | | | | |
| | 9-pin metal package | VPA05 | 120 | 50 | 60 | 100 | | 29 | | |
| | | VPA07 | 120 | 70 | 50 | 90 | 29 | | | |
| Graphics DTP (64 to 85 kHz) | VPS10 | 120 | 100 | 50 | 90 | 20 | 3 | 15-pin molded package | | |
| | VPA10 | 100 | 100 | 45 | 100 | 14 | 1 | 9-pin metal package | | |
| | VPA12 | 90 | 120 | 40 | 80 | 14 | | | | |
| | VPA13 | 120 | 130 | 45 | 80 | 14 | | | | |
| VPA15 | 90 | 150 | 40 | 80 | 14 | | | | | |
| FAA Medical (up to 130 kHz) | VPA18 | 90 | 180 | 40 | 80 | 14 | 1 | 9-pin metal package | | |
| | VPA25 | 80 | 230 | 30 | 70 | 14 | | | | |
| | VPA30* | Being planned | | | | | | | | |

● Recommended Video Pack line-up for ED/HDTV applications

| Application | Type No. | V _{CC} (V) | f _v (MHz) | V _{OUT} (V _{p-p}) | V _{CC} (V) | Gain (D·C) | No. of channels | Package type |
|-------------|----------|---------------------|----------------------|--------------------------------------|---------------------|------------|-----------------|---------------------|
| EDTV | VPH01 | 230 | 18 | 100 | 150 | 29 | 1 | 9-pin metal package |
| HDTV | VPH03 | 230 | 30 | 100 | 170 | 29 | | |
| | VPH05 | 230 | 50 | 100 | 170 | 29 | | |
| | VPH06 | 230 | 65 | 100 | 170 | 29 | | |

● Video Pack circuit configuration

● Peripheral circuit for VPA series

