

SANYO	No.2786A	VPA12
		FBET Hybrid IC Video Pack Series High-Precision CRT Display Video Output Amplifier

Overview

The VPA12 High-Precision CRT Display Video Output Amplifier integrates a complete amplifier using high-precision FBET and LSBT transistor chips into a single compact hybrid IC, allowing high-output voltage, wide-bandwidth video output amplifier circuits to be implemented with greatly reduced parts count. The result is both savings in board space and cost. The VPA12's 9-pin metal SIP package also minimizes EMI problems and simplifies circuit board design.

The 120MHz bandwidth makes the VPA12 ideally suited for use in 64kHz line frequency monitors. A supply voltage of 70V is typical.

The VPA12 is one device in a series of Sanyo ICs that cover the complete range of video output amplifier applications - - from low-cost PC monitors through to externally high resolution graphics displays. Evaluation samples are available now.

Features

- High performance
- Up-to-75V output voltage
- 120MHz typical bandwidth
- Simplifies circuit design
- Compact package
- Metal casing reduces EMI

Absolute Maximum Ratings at Ta = 25°C

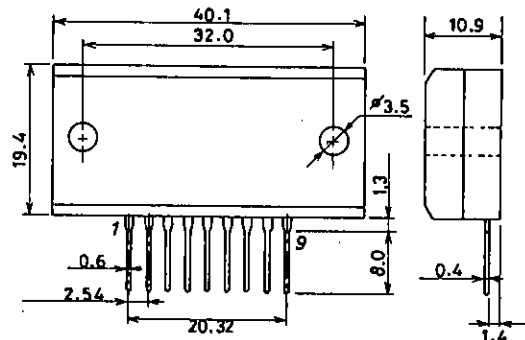
Maximum Supply Voltage	V _{CC} max		80	V
	V _{BB} max		15	V
Allowable Power Dissipation	Pd		3.5	W
	Pd	Tc = 25°C	20	W
Operating Case Temperature	Tc		- 10 to + 100	°C
Storage Temperature	Tstg		- 20 to + 110	°C

Recommended Operating Conditions at Ta = 25°C

Supply Voltage	V _{CC}		70	V
	V _{BB}		12	V

Package Dimensions

(unit: mm) 2060



VPA12

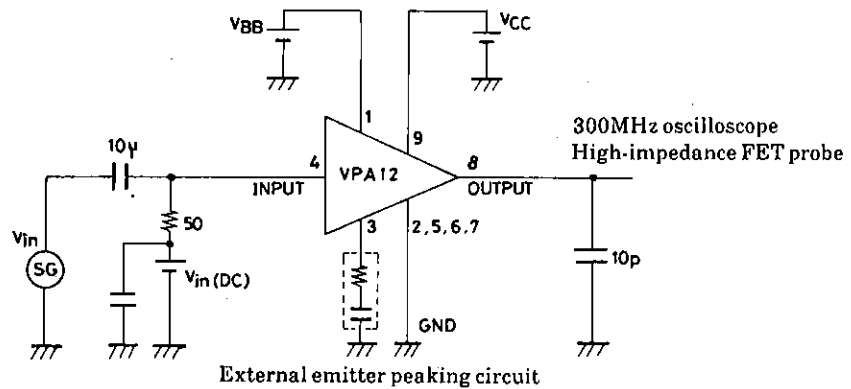
Electrical Characteristics at $T_a = 25^\circ\text{C}$

			min	typ	max	unit
Maximum Frequency	f_{max}	$V_{\text{CC}} = 70\text{V}, V_{\text{BB}} = 12\text{V},$ $V_{\text{in}}(\text{DC}) = 2.7\text{V}, V_{\text{out}}(\text{p-p}) = 40\text{V}$		120	160	MHz
Voltage Gain	$V_{\text{G}}(\text{DC})$	$V_{\text{CC}} = 70\text{V}, V_{\text{BB}} = 12\text{V}, V_{\text{in}}(\text{DC}) = 2.7\text{V}$		14		times
Supply Voltage	V_{CC}			70	80	V
	V_{BB}		5	12	15	V
Current Dissipation (DC)	I_{CC}	$V_{\text{CC}} = 70\text{V}, V_{\text{BB}} = 12\text{V}, V_{\text{in}}(\text{DC}) = 2.7\text{V}$		50		mA
Input Voltage	V_{IN}				5	V
Input Current	I_{IN}				5	mA
Average Power Dissipation	$P_{\text{d}}(\text{ave})$			3		W
Peak Power Dissipation	$P_{\text{d}}(\text{max})$			5		W

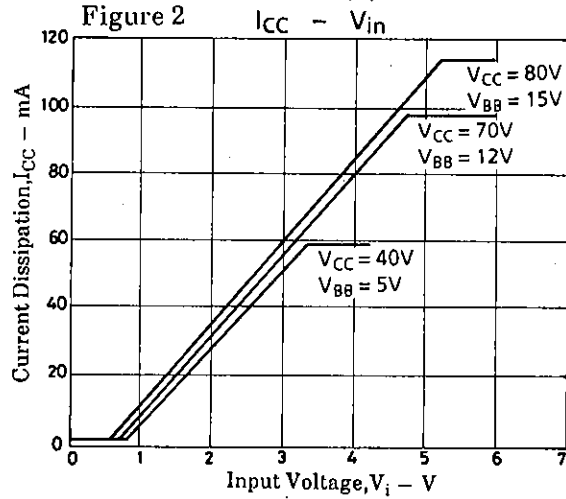
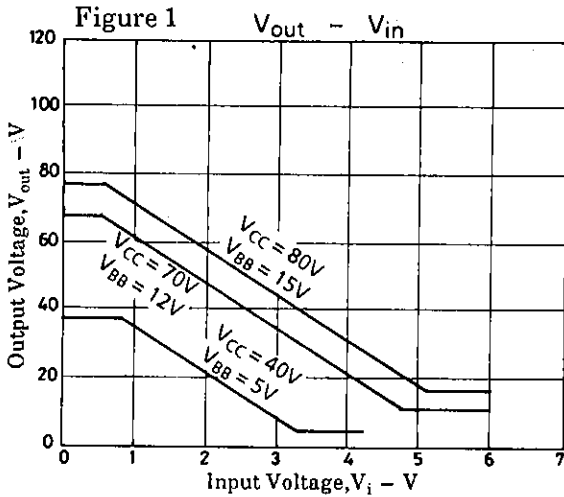
(Note) Emitter peaking : Optimum value

Equivalent Circuit

Test Circuit

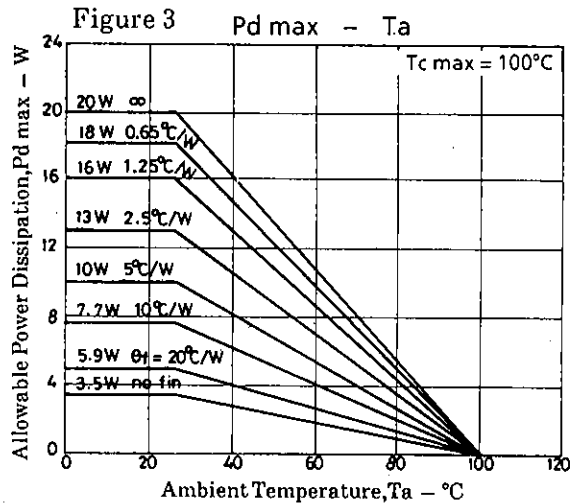


Unit (resistance: Ω , capacitance: F)



Performance Characteristics

Figures 1 and 2 show the output voltage and supply current vs. input voltage characteristics. Figure 3 shows the allowed power dissipation for different heat sinks. Note that the device is connected internally to ground (pins 2, 5, 6, 7). A torque of 4 to 6kg/cm² should be used to fasten the case to a heat sink.



■ No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.

■ Anyone purchasing any products described or contained herein for an above-mentioned use shall:

- ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
- ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.

■ Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.