

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

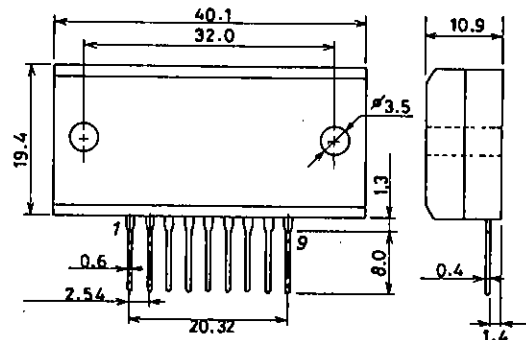
Maximum Supply Voltage	V _{CC} max		80	V
	V _{BB} max		15	V
Allowable Power Dissipation	Pd		3.5	W
	Pd	Tc = 25°C	20	W
Operating Case Temperature	Tc		- 10 to + 100	°C
Storage Temperature	Tstg		- 20 to + 110	°C

Recommended Operating Conditions at Ta = 25°C

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

Package Dimensions

(unit: mm) 2060



VPA12

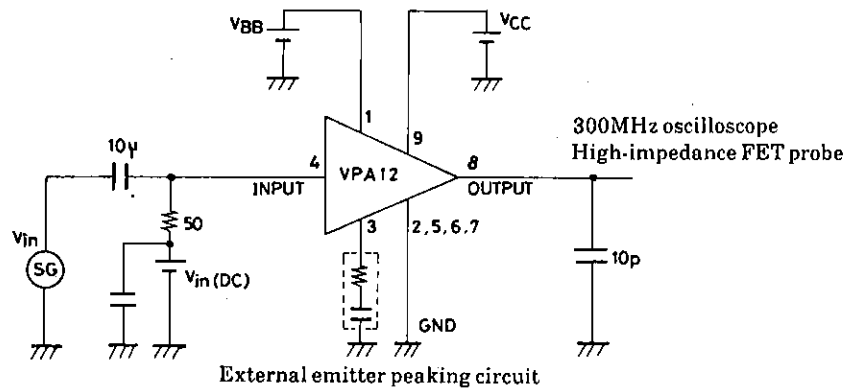
Electrical Characteristics at $T_a = 25^\circ\text{C}$

			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

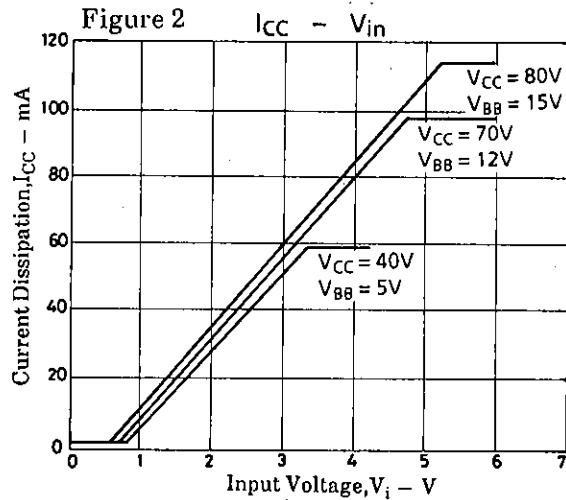
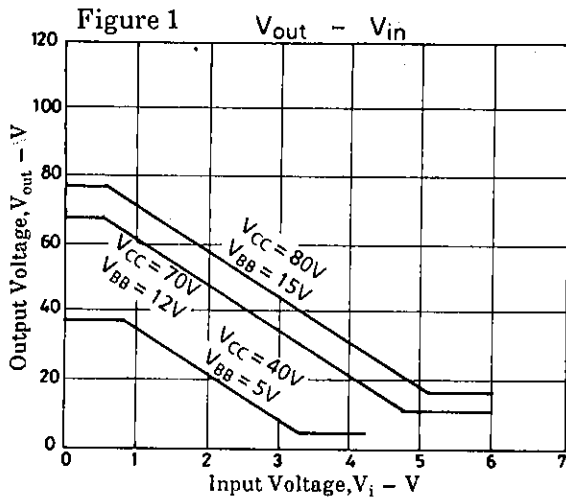
(Note) Emitter peaking : Optimum value

Equivalent Circuit

Test Circuit

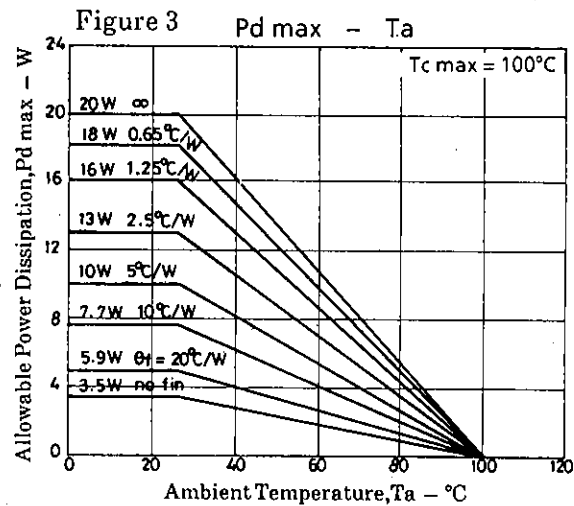


Unit (resistance: Ω , capacitance: F)



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.



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