Ordering number : EN2786A

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 disign.

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

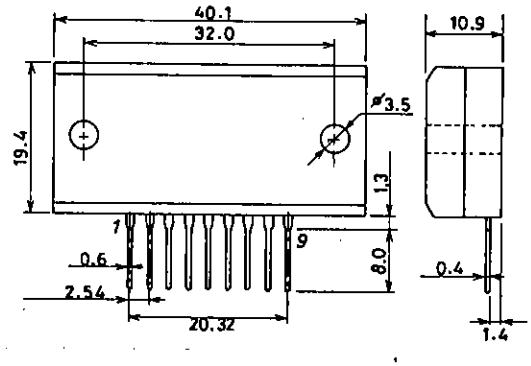
				unit
Maximum Supply Voltage	V_{CC} max		80	V
	V_{BB} max		15	V
Allowable Power Dissipation	Pd		3.5	W
	Pd	Tc = 25°C	20	W
Operating Case Temperature	Tc		−10 to +100	°C
Storage Temperature	Tstg		−20 to +110	°C

Recommended Operating Conditions at Ta = 25°C

			unit
Supply Voltage	V_{CC}	70	V
	V_{BB}	12	V

Package Dimensions

(unit: mm) 2060

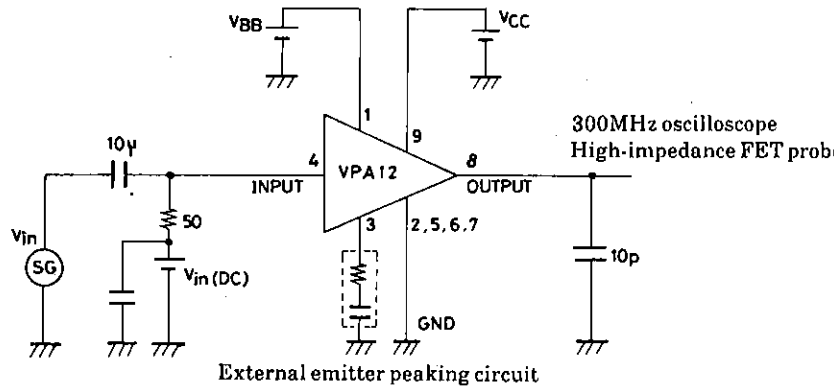


Electrical Characteristics at Ta = 25°C			min	typ	max	unit
Maximum Frequency	f max	V_{CC}=70V, V_{BB}=12V, Vin(DC)=2.7V, Vout(p-p)=40V		120	160	MHz
Voltage Gain	VG (DC)	V_{CC}=70V, V_{BB}=12V, Vin(DC)=2.7V		14		times
Supply Voltage	V_{CC}			70	80	V
	V_{BB}		5	12	15	V
Current Dissipation (DC)	I_{CC}	V_{CC}=70V, V_{BB}=12V, Vin(DC)=2.7V		50		mA
Input Voltage	V_{IN}				5	V
Input Current	I_{IN}				5	mA
Average Power Dissipation	Pd (ave)			3		W
Peak Power Dissipation	Pd (max)			5		W

(Note) Emitter peaking : Optimum value

Equivalent Circuit

Test Circuit



External emitter peaking circuit

Unit (resistance: Ω, capacitance: F)

Figure 1 V_{out} – V_{in}

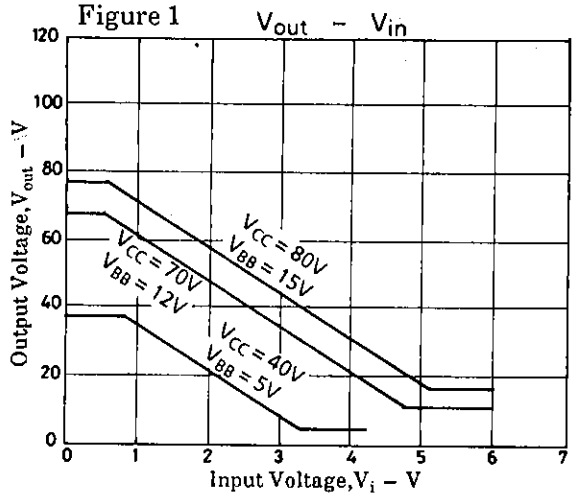


Figure 2 I_{CC} – V_{in}

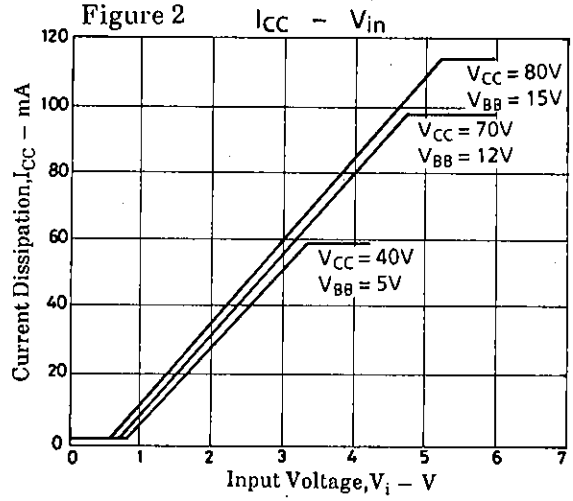
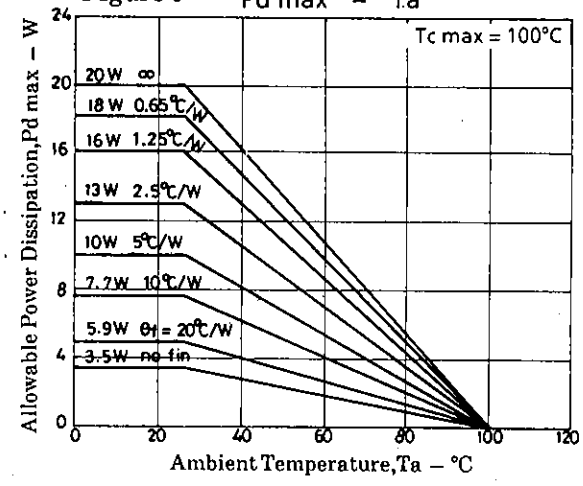


Figure 3 Pd max – Ta



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/cm^2 should be used to fasten the case to a heat sink.