



SN76600P MONOLITHIC TV VIDEO IF AMPLIFIER

Maximum Ratings ($T_A = 25^\circ\text{C}$)

Rating	Symbol	Value	Unit
Power Supply	V+	+18	Vdc
Output Supply	V_1, V_8	+18	Vdc
AGC Supply	V_{AGC}	$4V < V_{AGC} < V+$	Vdc
Differential Input Voltage	V_{in}	± 7.0	Vdc
Power Dissipation Derate above $T_A = 25^\circ\text{C}$	P_D	625 5.0	mW mW/ $^\circ\text{C}$
Operating Temperature Range	T_A	0 to +75	$^\circ\text{C}$

Electrical Characteristics
 $V+ = +12\text{Vdc}$, $T_A = 25^\circ\text{C}$

DC Characteristics	Symbol	Min	Typ	Max	Unit
Total Supply Current, (Figure 1) Pins 1, 2 and 8	I_s	-	20	-	mAdc
Output Stage Current	$I_1 + I_8$	-	6.5	-	mAdc
AGC Supply (Figure 2) (0dB Attenuation) (60dB Attenuation)	V_{AGC}	-	5	-	Vdc
	I_{AGC}	-	0.1	-	mAdc
	V_{AGC}	-	6.9	-	Vdc
	I_{AGC}	-	0.2	-	mAdc
Small Signal Characteristics ($f = 45\text{MHz}$)	Symbol	Min	Typ	Max	Unit
Power Gain (Figure 1) (BW = 6.0MHz)		46	50	-	dB
Y-Parameters Single-Ended Input Admittance	g_{11}		1.0		mmho
	b_{11}		2.8		
Differential Output Admittance	g_{22}		0.07		mmho
	b_{22}		0.5		
Differential Admittance Variation with AGC (0dB to 60dB) Input Admittance	g_{11}		0.06		mmho
	b_{11}		0		
Output Admittance	g_{22}		0.004		mmho
	b_{22}		0.04		
(Y_{21}) (0dB AGC)			0.2		mho
Useable AGC Range in 45-MHz TV IF			>60		db



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APPLICATIONS:

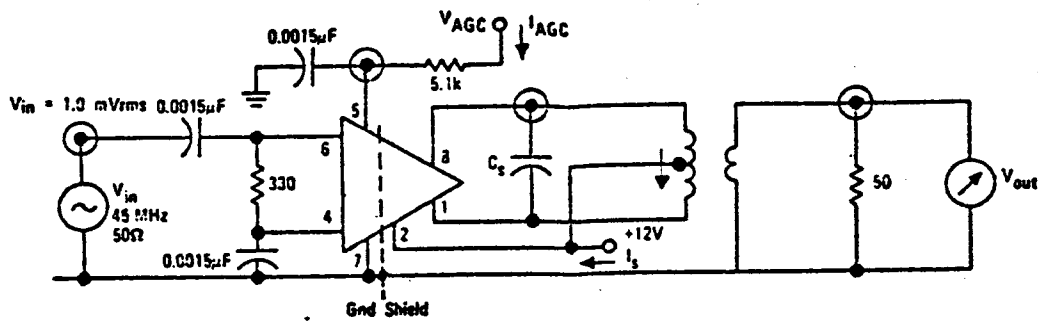
TV VIDEO IF

DEFENSE COMMUNICATIONS SATELLITE PROGRAMS

COMBINED AM/FM RADIO IF AMPLIFIERS

LINEAR SWITCH OR CHOPPER FOR MULTIPLEX

MODULATION OR DEMODULATION



NOTE:
It is essential that the external feedback capacitance be minimized.

Transformer Data
Primary: AWG No. 32 wire, 15 turns close wound, 1/4" diameter, Core—TH Arnold or equivalent, L = -3.5 pF at f = 45 MHz.

Secondary: AWG No. 16 wire, 1 turn, symmetrically overwound on the primary. Adjust for 50Ω secondary load reflected as 15 k ohms (use RX meter or equivalent).

Stray Capacitance (C_s on I:C output terminals): = 2.0 pF to tune primary coil for 45 MHz with B/V = 5.0 MHz.

FIGURE 1 — 45-MHz POWER GAIN AND I_s TEST CIRCUIT

