

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Supply Voltage	V _{CC}	7.0	V
Power Dissipation	P _T	450	mW
Operating Temperature	T _{opr}	- 20 to +80	°C
Storage Temperature	T _{stg}	- 40 to +125	°C

Electrical Characteristics (VSS = 0V, Ta = 25°C)

Item		Symbol	Min	Typ	Max	Unit	Test Condition
1st BPA Rated Input		e _{MBI}	—	80	—	mVp-p	
2nd BPA Rated Output		e _{MBO}	380	430	480	mVp-p	
ACC Range	MAX	ΔG _{MAX}	-4	-2	+3	dB	Input burst level: -15dB e _{MBO} level ratio
	MIN	ΔG _{MIN}	-3	0.5	+3	dB	Output burst level: +6dB e _{MBO} level ratio
Killer Operating Point			—	-31	-26	dB	
1st BPA Input DC Voltage		E _{MBI}	2.75	2.85	2.95	V	
2nd BPA Output DC Voltage		E _{MBO}	2.1	2.4	2.7	V	
Killer Detection H-level		E _{KH}	3.4	3.8	4.3	V	
APC Pull Range	+	f _{p+}	+350	1000	—	Hz	Chroma input frequency (+) during pull
	-	f _{p-}	—	-700	-350	Hz	Chroma input frequency (-) during pull
APC Control Sensitivity		B	6	11	—	Hz/mV	
Killer Carrier Leak		e _K		32	30	dB	Forced killer
fsc Output Level		e _{fsc}	200	400	—	mVpp	
Chroma VCO Oscillation Frequency Offset			-70	0	+70	Hz	
BLK Threshold Value level		E _{DB0}	0.8	1.7	2.3	V	
Sub BPA Rated Input		e _{SBI}	—	310	—	mVpp	
Y/C Mix Y Rated Input		e _{YI}	—	500	—	mVpp	
Y/C Mix Amplifier Gain	Y	G _Y	5.8	6.3	6.8	dB	fi = 3.58MHz
	C	G _C	4.5	6.0	7.5	dB	fi = 3.58MHz
C Gain Control Tracking Error		ΔG _{CE}	-1.5	1.3	2.5	dB	See note 1



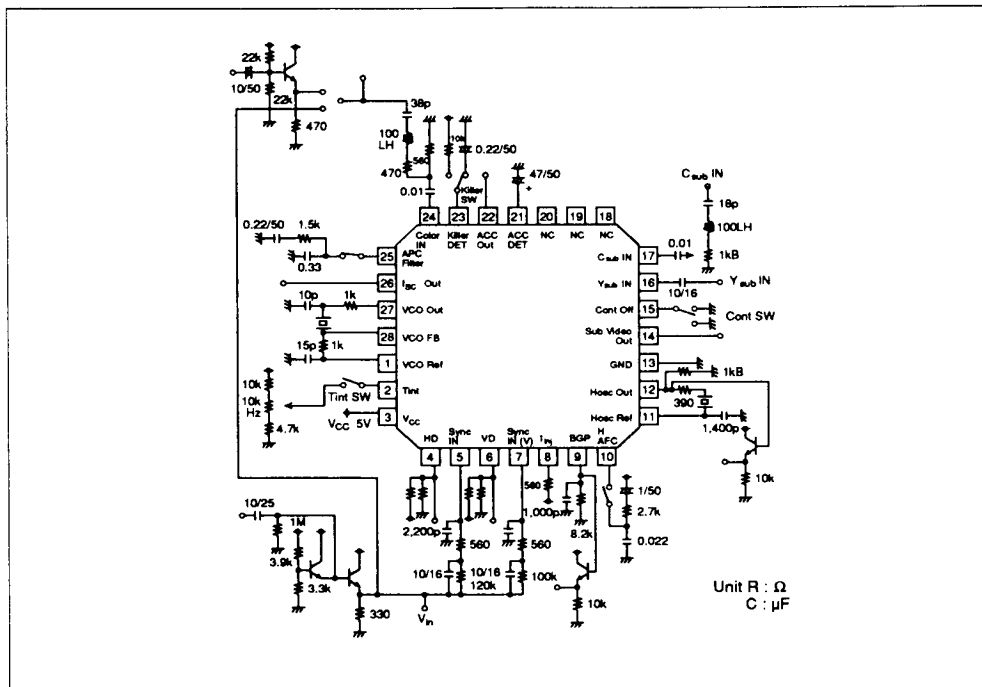
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Item		Symbol	Min	Typ	Max	Unit	Test Condition
Y/C Mix Amplifier Frequency Characteristics	Y	f_{cy}	5	10	—	MHz	
	C	f_{cc}	4	15	—	MHz	
Sub BPA Input DC Voltage		E_{SBI}	2.5	2.6	2.7	V	
Y/C Mix Amplifier Input DC Voltage		E_{YI}	2.0	2.25	2.4	V	
Y/C Mix Amplifier Output DC Voltage		E_{MIX}	1.5	1.9	2.3	V	
Horizontal Free-running Frequency		f_{OH}	15434	15734	16034	Hz	
Horizontal Oscillation Frequency Current/Voltage Fluctuation		Δf_{HV}	—	+15 -30	± 70	Hz	
HD Pulse Duration		T_{HD}	3.5	3.7	3.9	μs	
Horizontal Synchronization Pull Range	+	f_{HP+}	+400	+650	—	Hz	
	-	f_{HP-}	—	900	400	Hz	
Horizontal Pulse Output Open Channel Voltage		V_{MPOS}	—	3.3	4.0	V	V_{CC} : Increased gradually from 0V.
Synchronization Separation	H	V_{HSS}	3.4	3.6	3.8	V	
Power DC Level	V	V_{DSS}	3.4	3.6	3.8	V	
Vertical Free-running Frequency		f_{OV}	—	$f_H/288.5$	—	Hz	
VD Pulse Duration		T_{VD}	—	10.25H	—	sec	Video input: OPEN
HD Pulse Output Voltage (HI)		E_{HDI}	3.8	4.0	4.3	V	Load against GND 3k Ω
HD Pulse Output Voltage (LO)		E_{HDL}	0.7	0.8	1.2	V	Load against GND 3k Ω
VD Pulse Output Voltage (HI)		E_{VDI}	3.8	4.0	4.3	V	Load against GND 3k Ω
VD Pulse Output Voltage (LO)		E_{VDL}	0.7	0.9	1.2	V	Load against GND 3k Ω
Supply Current		I_D	30	42	54	mA	
BGP Mask Pulse Duration		T_{BNP}	—	12H	—	sec	
BGP Pulse Duration		T_{BGP}	—	2.5	—	μs	Pulse duration following sync. signal trailing edge

Note 1: Input burst level 0 $\rightarrow$ + 6dB, 0 $\rightarrow$ - 10dB



Test Circuit



Ordering Information

Type No.	Package
HA11525MP	MP-28
HA11525NT	DP-30S

