

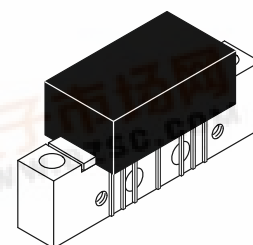
The RF Line 110-Channel (750 MHz) CATV Amplifier

MHW7222A

The MHW7222A is designed specifically for up to 750 MHz CATV systems as amplifiers in trunk and line extender applications. This amplifier features ion-implanted, arsenic emitter transistors, an all gold metallization system and offers improved ruggedness and distortion performance.

- Specified for 110-Channel Performance
- Broadband Power Gain — @ $f = 40\text{--}750\text{ MHz}$
 $G_p = 22.3\text{ dB Typ @ }750\text{ MHz}$
- Broadband Noise Figure
 $NF = 5.5\text{ dB Typ}$
- All Gold Metallization

**22 dB GAIN
750 MHz
110 CHANNEL
CATV AMPLIFIER**



CASE 714Y-03, STYLE 1

ABSOLUTE MAXIMUM RATINGS

Rating	Symbol	Value	Unit
DC Supply Voltage	V_{CC}	+28	Vdc
RF Input Voltage (Single Tone)	V_{in}	+70	dBmV
Operating Case Temperature Range	T_C	-20 to +100	°C
Storage Temperature Range	T_{stg}	-40 to +100	°C

ELECTRICAL CHARACTERISTICS ($V_{CC} = 24\text{ Vdc}$, $T_C = +30^\circ\text{C}$, 75 Ω system unless otherwise noted)

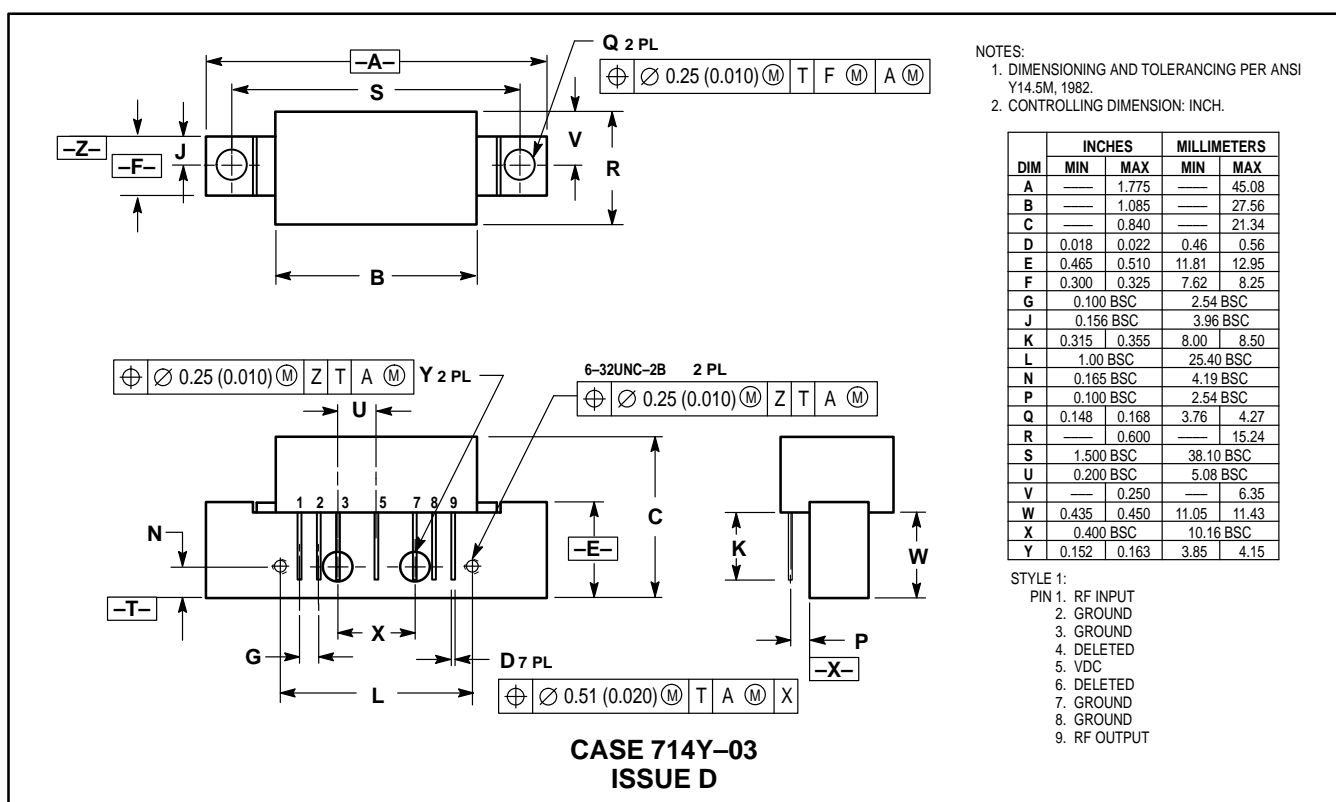
Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain $f = 50\text{ MHz}$ $f = 750\text{ MHz}$	G_p	20.8 22	21.5 22.3	22.2 24	dB
Slope ($f = 40\text{--}750\text{ MHz}$)	S	0	1	2	—
Gain Flatness (Peak To Valley) ($f = 40\text{--}750\text{ MHz}$)	G_f	—	0.4	0.6	—
Input/Output Return Loss @ $f = 40\text{ MHz}$	IRL/ORL	20	24	—	dB
Derate Return Loss @ $f > 40\text{ MHz}$	RLD	—	—	0.008	dB/MHz
Composite Second Order ($V_{out} = +40\text{ dBmV/ch}$; 110 Channels) ($V_{out} = +44\text{ dBmV/ch}$; 77 Channels)	CSO ₁₁₀ CSO ₇₇	— —	-65 -65	-57 —	dB

(continued)

ELECTRICAL CHARACTERISTICS — continued

Characteristic	Symbol	Min	Typ	Max	Unit
Cross Modulation Distortion ($V_{out} = +40$ dBmV/ch, 110-Channel @ $F_m = 55.25$ MHz) ($V_{out} = +44$ dBmV/ch, 77-Channel @ $F_m = 55.25$ MHz)	XMD ₁₁₀ XMD ₇₇	— —	-64 -60	-60 —	dBc
Composite Triple Beat ($V_{out} = +40$ dBmV/ch, 110-Channels, Worst Case) ($V_{out} = +44$ dBmV/ch, 77-Channels, Worst Case)	CTB ₁₁₀ CTB ₇₇	— —	-63 -62	-60 —	dBc
Noise Figure $f = 50$ MHz $f = 750$ MHz	NF	— —	3.6 5.5	5 7	dB
DC Current	I_{DC}	180	220	240	mA

PACKAGE DIMENSIONS



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