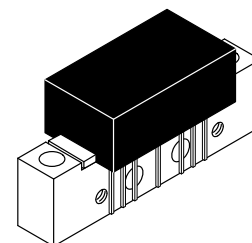


# The RF Line 110-Channel (750 MHz) CATV Line Extender Amplifier

**MHW7242A**

- Specified for 110-Channel Performance
- Broadband Power Gain — @  $f = 40\text{--}750\text{ MHz}$   
 $G_p = 24\text{ dB (Typ)}$
- Broadband Noise Figure  
 $NF = 7\text{ dB (Max) @ } 750\text{ MHz}$
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization
- 7 GHz  $f_T$  Ion-Implanted Transistors
- Improved CTB Performance

**24 dB GAIN  
750 MHz  
110-CHANNEL  
CATV AMPLIFIER**



**CASE 714Y-03, STYLE 1**

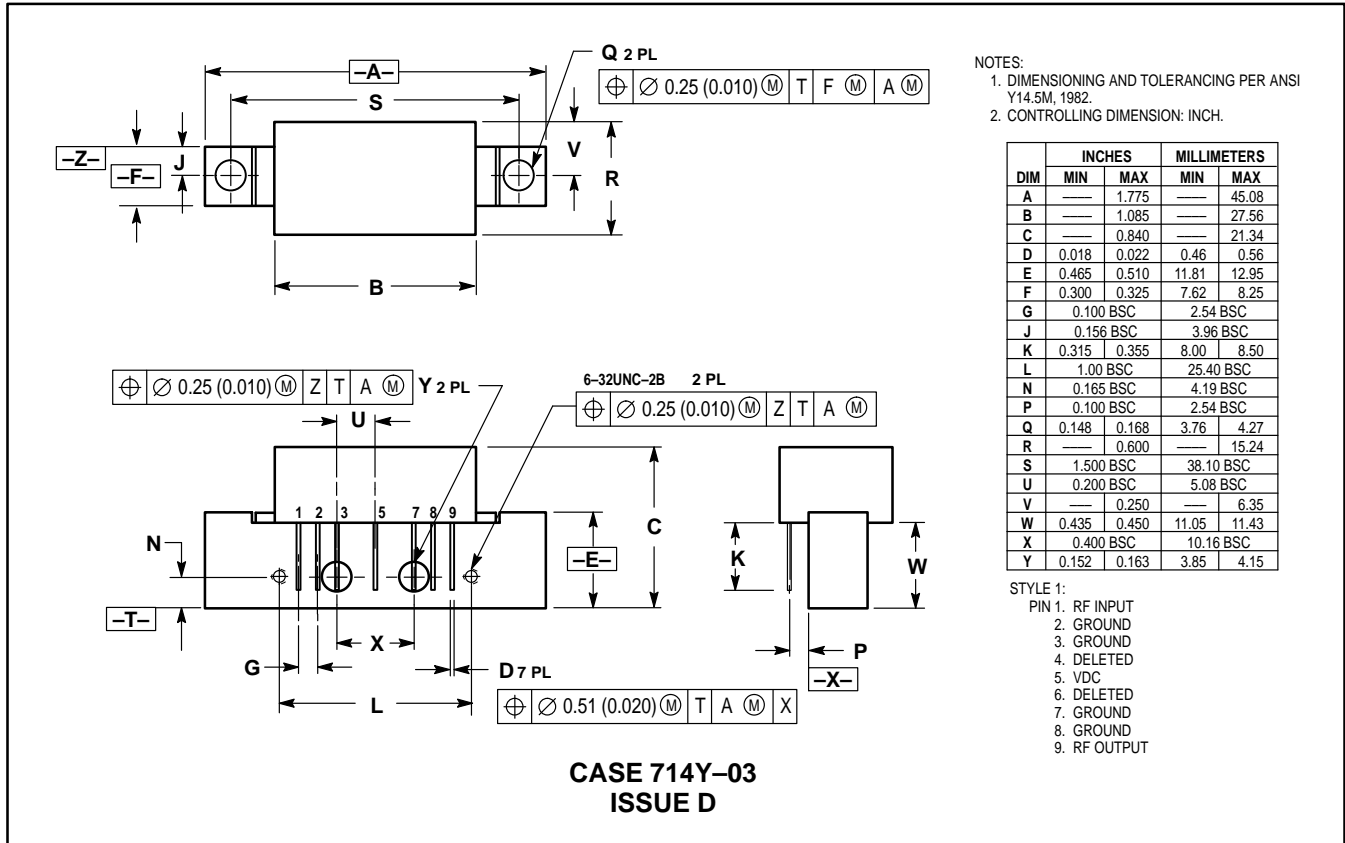
## MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	$V_{in}$	+55	dBmV
DC Supply Voltage	$V_{CC}$	+28	Vdc
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 $\Omega$ system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain	$G_p$	23.2 24	24 24.7	24.8 26	dB
Slope	S	0	0.6	1.5	dB
Gain Flatness (40-750 MHz, Peak To Valley)	—	—	0.4	0.6	dB
Return Loss — Input/Output ( $Z_0 = 75\text{ Ohms}$ )	IRL/ORL	20 —	— —	— 0.007	dB dB/MHz
Composite Second Order ( $V_{out} = +40\text{ dBmV/ch.}$ , Worst Case) ( $V_{out} = +44\text{ dBmV/ch.}$ , Worst Case)	CSO <sub>110</sub> CSO <sub>77</sub>	— —	-69 -78	-62 —	dBc
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +40\text{ dBmV/ch.}$ , FM = 55 MHz) ( $V_{out} = +44\text{ dBmV/ch.}$ , FM = 55 MHz)	XMD <sub>110</sub> XMD <sub>77</sub>	— —	-63 -58	-61 —	dBc
Composite Triple Beat ( $V_{out} = +40\text{ dBmV/ch.}$ , Worst Case) ( $V_{out} = +44\text{ dBmV/ch.}$ , Worst Case)	CTB <sub>110</sub> CTB <sub>77</sub>	— —	-67 -64	-63 —	dBc
Noise Figure	NF	— —	4.8 5.5	5.5 7	dB
DC Current	$I_{DC}$	280	318	350	mA

## PACKAGE DIMENSIONS



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