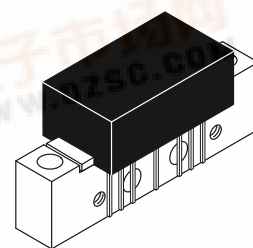


## The RF Line 110-Channel (750 MHz) CATV Line Extender Amplifier

- 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
- $7\text{ GHz } f_T$  Ion-Implanted Transistors
- Improved CTB Performance

**MHW7242A**

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



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

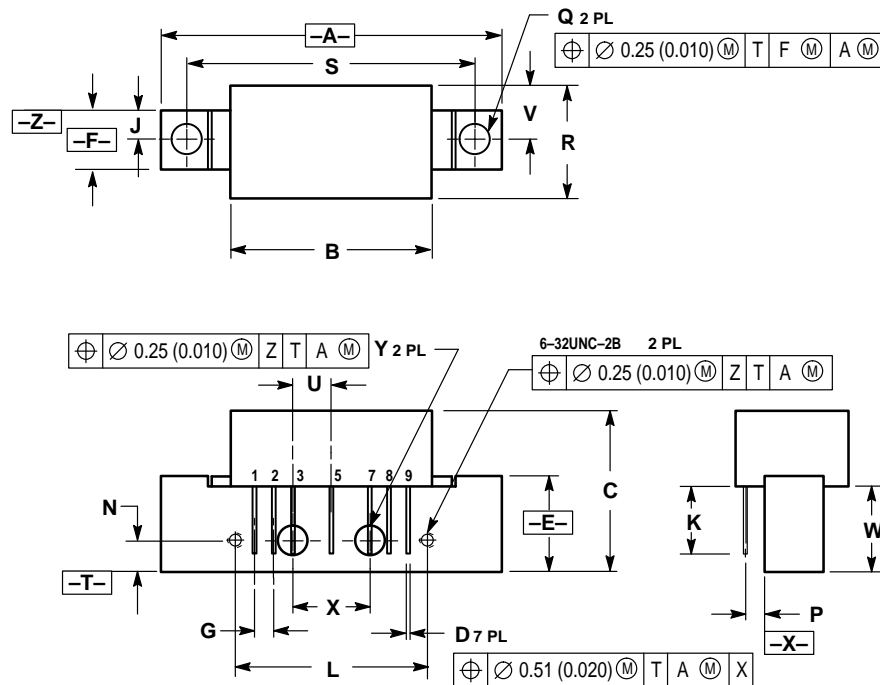
### MAXIMUM RATINGS

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 50 MHz 750 MHz	$G_p$	23.2 24	24 24.7	24.8 26	dB
Slope 40–750 MHz	S	0	0.6	1.5	dB
Gain Flatness (40–750 MHz, Peak To Valley)	—	—	0.4	0.6	dB
Return Loss — Input/Output ( $Z_0 = 75\text{ Ohms}$ ) @ 40 MHz @ $f > 40\text{ MHz}$ (Derate)	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 50 MHz 750 MHz	NF	— —	4.8 5.5	5.5 7	dB
DC Current	$I_{DC}$	280	318	350	mA

## PACKAGE DIMENSIONS




- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	—	1.775	—	45.08
B	—	1.085	—	27.56
C	—	0.840	—	21.34
D	0.018	0.022	0.46	0.56
E	0.465	0.510	11.81	12.95
F	0.300	0.325	7.62	8.25
G	0.100 BSC		2.54 BSC	
J	0.156 BSC		3.96 BSC	
K	0.315	0.355	8.00	8.50
L	1.00 BSC		25.40 BSC	
N	0.165 BSC		4.19 BSC	
P	0.100 BSC		2.54 BSC	
Q	0.148	0.168	3.76	4.27
R	—	0.600	—	15.24
S	1.500 BSC		38.10 BSC	
U	0.200 BSC		5.08 BSC	
V	—	0.250	—	6.35
W	0.435	0.450	11.05	11.43
X	0.400 BSC		10.16 BSC	
Y	0.152	0.163	3.85	4.15

STYLE 1:

- PIN 1:
1. RF INPUT
  2. GROUND
  3. GROUND
  4. DELETED
  5. VDC
  6. DELETED
  7. GROUND
  8. GROUND
  9. RF OUTPUT

### CASE 714Y-03 ISSUE D

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