

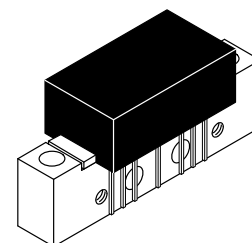
# The RF Line

## 110-Channel 750 MHz CATV Amplifier

**MHW7182A**

- Specified for 77 and 110-Channel Performance
- Broadband Power Gain — @ f = 750 MHz  
G<sub>p</sub> = 18.8 dB (Typ)
- Broadband Noise Figure  
NF = 5.0 dB (Typ) @ 750 MHz
- All Gold Metallization
- 7 GHz f<sub>T</sub> Ion-Implanted Transistors
- Improved Ruggedness

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



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

### MAXIMUM RATINGS

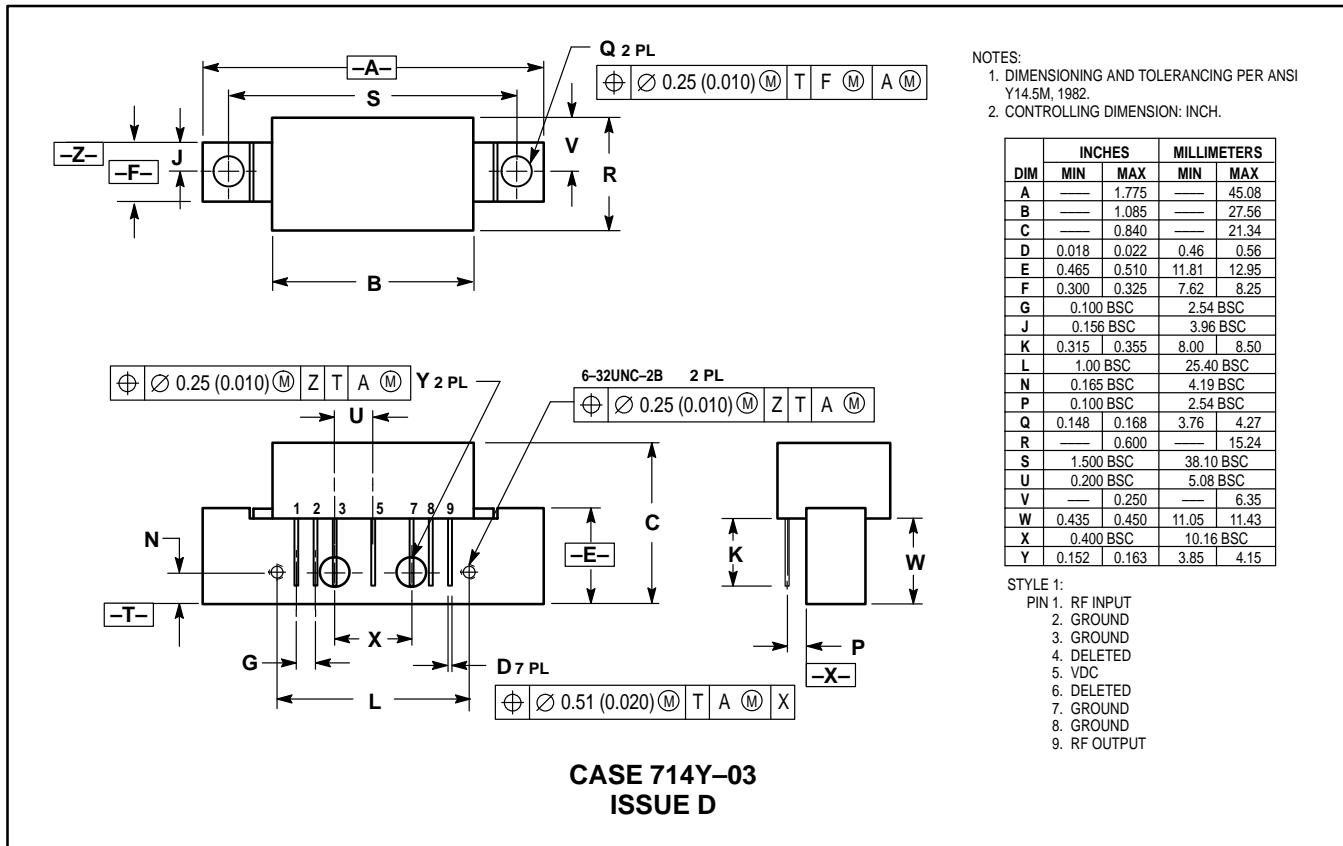
Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V <sub>in</sub>	+70	dBmV
DC Supply Voltage	V <sub>CC</sub>	+28	Vdc
Operating Case Temperature Range	T <sub>C</sub>	-20 to +100	°C
Storage Temperature Range	T <sub>stg</sub>	-40 to +100	°C

### ELECTRICAL CHARACTERISTICS (V<sub>CC</sub> = 24 Vdc, T<sub>C</sub> = +30°C, 75 Ω system unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Frequency Range		BW	40	—	750	MHz
Power Gain	50 MHz 750 MHz	G <sub>p</sub>	17.6 18.2	18.3 18.8	18.8 20.5	dB
Slope	40–750 MHz	S	0	0.6	2.5	dB
Gain Flatness (40–750 MHz, Peak to Valley)		—	—	0.3	0.6	dB
Return Loss — Input/Output (Z <sub>0</sub> = 75 Ohms)	@ 40 MHz @ f > 40 MHz (Derate)	IRL/ORL	20 —	— —	— 0.007	dB dB/MHz
Composite Second Order	(V <sub>out</sub> = +40 dBmV/ch., Worst Case) (V <sub>out</sub> = +44 dBmV/ch., Worst Case)	CSO <sub>110</sub> CSO <sub>77</sub>	— —	-70 -70	-62 —	dBc
Cross Modulation Distortion @ Ch 2	(V <sub>out</sub> = +40 dBmV/ch., FM = 55 MHz) (V <sub>out</sub> = +44 dBmV/ch., FM = 55 MHz)	XMD <sub>110</sub> XMD <sub>77</sub>	— —	-66 -61	-64 —	dBc
Composite Triple Beat	(V <sub>out</sub> = +40 dBmV/ch., Worst Case) (V <sub>out</sub> = +44 dBmV/ch., Worst Case)	CTB <sub>110</sub> CTB <sub>77</sub>	— —	-64 -63	-62 —	dBc
Noise Figure	50 MHz 550 MHz 750 MHz	NF	— — —	4.0 4.5 5.0	5.0 — 6.5	dB
DC Current (V <sub>DC</sub> = 24 V, T <sub>C</sub> = 30°C)		I <sub>DC</sub>	180	235	240	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: RF INPUT  
 2: GROUND  
 3: GROUND  
 4: DELETED  
 5: VDC  
 6: DELETED  
 7: GROUND  
 8: GROUND  
 9: RF OUTPUT

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