

The RF Line

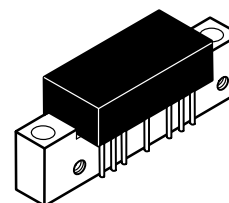
60-Channel (450 MHz) & 77-Channel (550 MHz) CATV Low Noise Amplifiers

...designed specifically for up to 550 MHz CATV systems as input amplifiers in trunk and line extender applications. Both amplifiers feature ion-implanted, arsenic emitter transistors with 8.0 GHz f_T and an all gold metallization system.

- Specified for 60/77-Channel Performance
- Broadband Power Gain — @ $f = 40 - 550$ MHz
 - $G_p = 18.5$ dB Typ @ 50 MHz
 - 19.1 dB Typ @ 450 MHz
 - 19.5 dB Typ @ 550 MHz
- Broadband Noise Figure
 - NF = 4.5 dB Typ — MHW5183
 - 5.0 dB Typ — MHW6183
- Superior Gain, Return Loss and DC Current Stability with Temperature

MHW5183
MHW6183

18 dB GAIN
450/550 MHz
60/77 CHANNEL
LOW NOISE
CATV AMPLIFIERS



CASE 714-06, STYLE 1

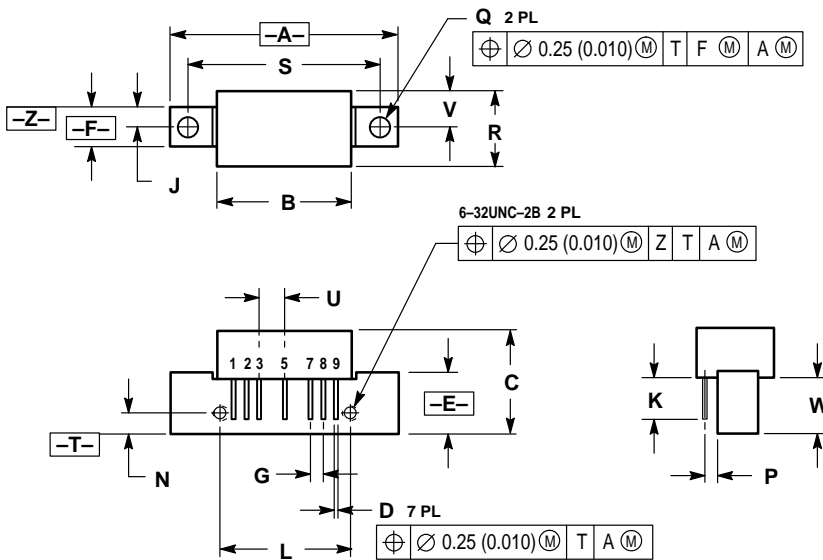
MAXIMUM RATINGS

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

Characteristic				Symbol	Min	Typ	Max	Unit
Frequency Range		MHW5183 MHW6183	BW	40 40	— —	450 550	MHz	
Power Gain		50 MHz 450 MHz 550 MHz	Gp	18 18.7 19	18.5 19.1 19.5	19 20.2 20.5	dB	
Slope		MHW5183 MHW6183	S	0.3 0.5	0.7 1.0	1.8 2.0	dB	
Gain Flatness (Peak To Valley)		MHW5183 MHW6183	—	— —	0.3 0.4	0.4 0.5	dB	
Input/Output Return Loss		MHW5183 MHW6183	IRL/ORL	18	—	—	dB	
Composite Second Order		MHW5183; V _{OUT} = +46 dBmV/ch MHW6183; V _{OUT} = +44 dBmV/ch	CSO ₆₀ CSO ₇₇	— —	−65 −60	−62 −58	dB	
Cross Modulation Distortion (V _{out} = +46 dBmV/ch, 60–Channel FLAT) (V _{out} = +44 dBmV/ch, 77–Channel FLAT)		MHW5183 MHW6183	XMD ₆₀ XMD ₇₇	— —	−59 −60	−57 −58	dBc	
Composite Triple Beat (V _{out} = +46 dBmV/ch, 60–Channel FLAT) (V _{out} = +44 dBmV/ch, 77–Channel FLAT)		MHW5183 MHW6183	CTB ₆₀ CTB ₇₇	— —	−62 −60	−58 −58	dBc	
Noise Figure		f = 50 MHz MHW5183 f = 450 MHz MHW6183 f = 550 MHz	NF	— — —	3.6 4.5 5.0	4.0 5.0 5.5	dB	
DC Current			I _{DC}	—	245	265	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	4.10 BSC		
P	0.100 BSC	2.54 BSC		
Q	0.148	0.168	3.76	4.27
R	—	0.595	—	15.11
S	1.500 BSC	38.10 BSC		
U	0.200 BSC	5.08 BSC		
V	0.280 BSC	7.11 BSC		
W	0.435	0.450	11.05	11.43

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

**CASE 714-06
ISSUE K**

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MHW5183/D

