

The RF Line

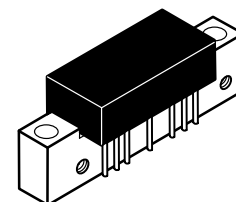
High Output Doubler 450/550 MHz CATV Amplifier Modules

The MHW5185B and MHW6185B are designed specifically for 450/550 MHz CATV applications. Features ion-implanted arsenic emitter transistors and an all gold metallization system.

- 5th Generation Die Technology
- Specified for 60/77-Channel Performance
- Broadband Power Gain — @ $f = 40-550$ MHz
 - $G_p = 18.5$ dB Typ @ 50 MHz
 - 19.2 dB Typ @ 450 MHz
 - 19.5 dB Typ @ 550 MHz
- Broadband Noise Figure
 - NF = 4.5 dB Typ @ 50 MHz
- Improvement in Distortion Over Conventional Hybrids
- Allows Higher Output Level Operation

MHW5185B
MHW6185B

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



CASE 714-06, STYLE 1

ABSOLUTE MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+70	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 ($V_{CC} = 24$ Vdc, $T_C = +30$ °C, 75 Ω system unless otherwise noted)

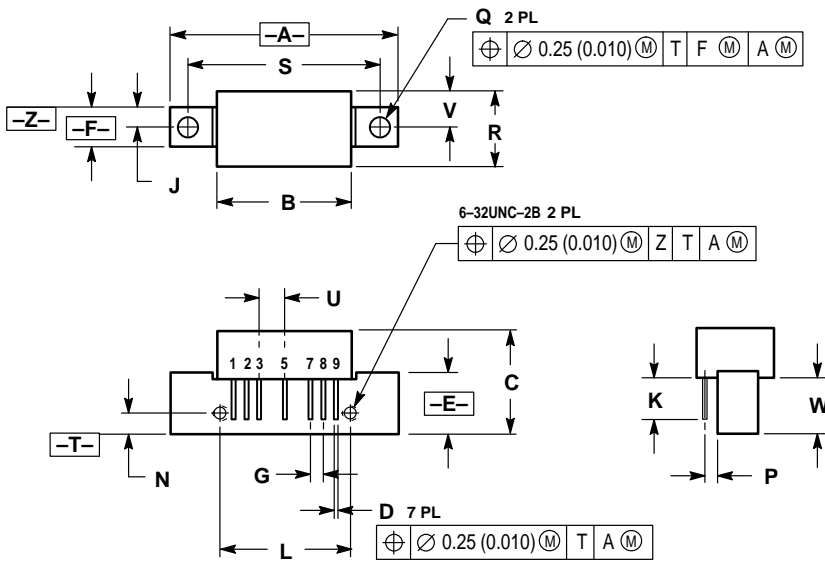
Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	450	MHz
		40	—	550	
Power Gain	G_p	18	18.5	19	dB
50 MHz	All	18.5	19.2	20	
450 MHz	MHW5185B	18.8	19.5	20.5	
550 MHz	MHW6185B				
Slope	S	0.3	—	1.8	dB
40-450 MHz	MHW5185B	0.3	—	2.0	
40-550 MHz	MHW6185B				
Gain Flatness (Peak To Valley)	—	—	—	0.4	dB
		—	—	0.5	
Return Loss — Input/Output ($Z_0 = 75$ Ohms)	IRL/ORL	18	—	—	dB
40-450 MHz	MHW5185B	18	—	—	
40-550 MHz	MHW6185B				
Composite Second Order	CSO _{60/77}	—	-70	-67	dB
60 ch, ($V_{out} = +46$ dBmV)	MHW5185B	—	-68	-65	
77 ch, ($V_{out} = +44$ dBmV)	MHW6185B				

(continued)

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

Characteristic		Symbol	Min	Typ	Max	Unit
Cross Modulation Distortion (60 ch, $V_{out} = +46$ dBmV @ $F_m = 55$ MHz) (77 ch, $V_{out} = +44$ dBmV @ $F_m = 55$ MHz)	MHW5185B	XMD _{60/77}	—	-70	-67	dB
	MHW6185B		—	-78	-68	
Signal-to-Triple Beat Noise (60 ch, $V_{out} = +46$ dBmV) (77 ch, $V_{out} = +44$ dBmV)	MHW5185B	CTB _{60/77}	—	-68	-67	dB
	MHW6185B		—	-66	-65	
Noise Figure	450 MHz	NF	—	5.5	7.0	dB
	550 MHz		—	6.0	7.5	
DC Current ($V_{DC} = 24$ Vdc, $T_C = 30^\circ\text{C}$)		I_{DC}	380	415	440	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	—
R	0.148	0.168	3.76	4.27
S	—	0.595	—	15.11
T	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:
 PIN 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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MHW5185B/D