

The RF Line

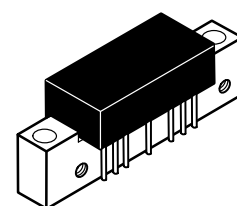
High Output Doubler 600 MHz CATV Amplifier Module

Designed specifically for 600 MHz CATV applications. Features ion-implanted arsenic emitter transistors with 7 GHz f_T and an all gold metallization system.

- 6th Generation Die Technology
- Specified for 87-Channel Performance
- Broadband Power Gain — @ $f = 40\text{--}600\text{ MHz}$
 $G_p = 18.5\text{ dB (Typ) @ } 50\text{ MHz}$
 $19.5\text{ dB (Typ) @ } 600\text{ MHz}$
- Broadband Noise Figure
 $NF = 6\text{ dB (Typ) — MHW6185-6A}$
- Improvement in Distortion Over Conventional Hybrids
- Allows Higher Output Level Operation

MHW6185-6A

**18 dB GAIN
600 MHz
87-CHANNEL
CATV AMPLIFIER**



CASE 714-06, STYLE 1

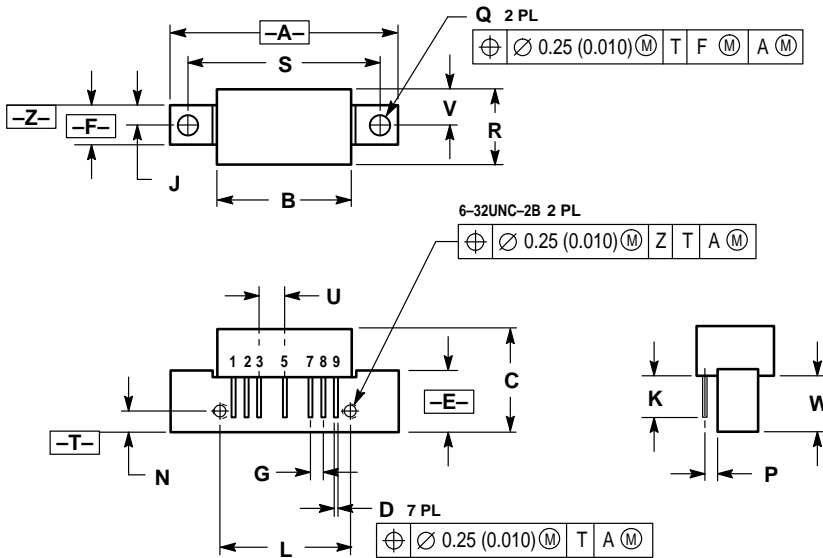
ABSOLUTE MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input	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 ($V_{CC} = 24\text{ Vdc}$, $T_A = +30^\circ\text{C}$, 75 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	600	MHz
Power Gain 50 MHz 600 MHz	G_p	18 18.5	18.5 18.8	19 20	dB
Slope 40-600 MHz	S	0	0.3	1.5	dB
Gain Flatness (40-600 MHz, Peak to Valley)	—	—	0.3	0.6	dB
Return Loss — Input/Output ($Z_0 = 75\text{ Ohms}$) 40-600 MHz	IRL/ORL	18	—	—	dB
Composite Second Order ($V_{out} = +44\text{ dBmV/ch.}$, Worst Case) 87-Channel FLAT	CSO_{87}	—	-70	-64	dBc
Cross Modulation Distortion ($V_{out} = +44\text{ dBmV/ch.}$, FM = 55 MHz) 87-Channel FLAT	XMD_{87}	—	-70	-66	dBc
Composite Triple Beat ($V_{out} = +44\text{ dBmV/ch.}$, Worst Case) 87-Channel FLAT	CTB_{87}	—	-66	-64	dBc
Noise Figure 50 MHz 600 MHz	NF	— —	5 6	6 7	dB
DC Current ($V_{DC} = 24 \pm 0.5\text{ Vdc}$, $T_C = 30^\circ\text{C}$)	I_{DC}	380	435	460	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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MOTOROLA

MHW6185-6A/D

