The RF Line

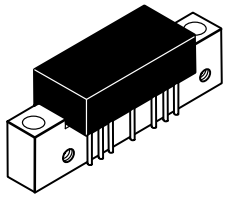
High Output Power Doubler 750 MHz CATV Amplifier

MHW7185

Designed specifically for 750 MHz CATV applications. Features ion–implanted arsenic emitter transistors with an all gold metallization system.

- Supply Voltage = 24 Vdc
- 5th Generation Die Technology
- Specified for 77/110 – Channel Performance
- Broadband Power Gain @ f = 50 MHz
  Gp = 18 dB typ
- Broadband Noise Figure @ f = 50 MHz
  NF = 6 dB Max
- Improvement in Distortion Over Conventional Hybrids
- Allows Higher Output Level Operation
- All Gold Metallization

24 Vdc
750 MHz
77/110 – CHANNEL
CATV AMPLIFIER



CASE 714–06, Style 1

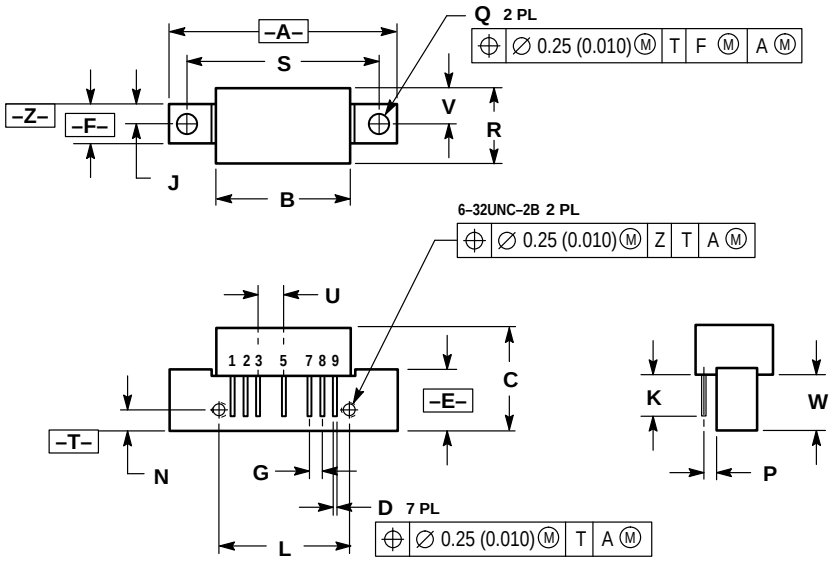
MAXIMUM RATINGS

Parameter	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°C, 75 ohm system, unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
Bandwidth		BW	40	750	MHz
Power Gain	(f = 50 MHz)	Gp1	18.0	19.0	dB
Power Gain	(f = 750 MHz)	Gp2	18.5	20.5	dB
Slope	(f = 40 – 750 MHz)	S	0	2	dB
Flatness	(f = 40 – 750 MHz, Peak to Valley)	G_f	—	1	dB
Return Loss	(f = 40 MHz)	RL	18	—	dB
Return Loss Derate	(f > 40 MHz)	RLD	—	0.011	dB/MHz
Composite Triple Beat	(V_{out} = +44 dBmV/ch, 77 Channels, Worst Case)	CTB_{77}	—	–65	dBc
Composite Triple Beat	(V_{out} = +44 dBmV/ch, 110 Channels, Worst Case)	CTB_{110}	—	–56	dBc
Cross Modulation	(V_{out} = +44 dBmV/ch, 77 Channels, FM = 55 MHz)	XMD_{77}	—	–68	dBc
Cross Modulation	(V_{out} = +44 dBmV/ch, 110 Channels, FM = 55 MHz)	XMD_{110}	—	–65	dBc
Composite Second Order	(V_{out} = +44 dBmV/ch, 77 Channels, Worst Case)	CSO_{77}	—	–62	dBc
Composite Second Order	(V_{out} = +44 dBmV/ch, 110 Channels, Worst Case)	CSO_{110}	—	–56	dBc
Noise Figure	(f = 50 MHz)	NF_1	—	6	dB
Noise Figure	(f = 750 MHz)	NF_2	—	8.5	dB
DC Current		IDC	380	460	mA

PACKAGE DIMENSIONS



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

	INCHES		MILLIMETERS	
DIM	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:
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

How to reach us:
USA / EUROPE: Motorola Literature Distribution;
P.O. Box 20912; Phoenix, Arizona 85036. 1–800–441–2447

MFAX: RMFAX0@email.sps.mot.com – TOUCHTONE (602) 244–6609
INTERNET: http://Design–NET.com

JAPAN: Nippon Motorola Ltd.; Tatsumi–SPD–JLDC, Toshikatsu Otsuki,
6F Seibu–Butsuryu–Center, 3–14–2 Tatsumi Koto–Ku, Tokyo 135, Japan. 03–3521–8315

HONG KONG: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852–26629298