

The RF Line High Output Power Doubler 750 MHz CATV Amplifier

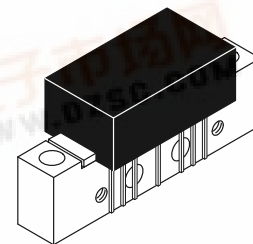
MHW7185C

- Specified for 77 and 110-Channel Performance
- Broadband Power Gain — @ f = 40–750 MHz
 $G_p = 19.4 \text{ dB (Typ)}$
- Broadband Noise Figure
 $NF = 6.2 \text{ dB (Typ) @ 750 MHz}$
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization
- 7 GHz f_T Ion-Implanted Transistors

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

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

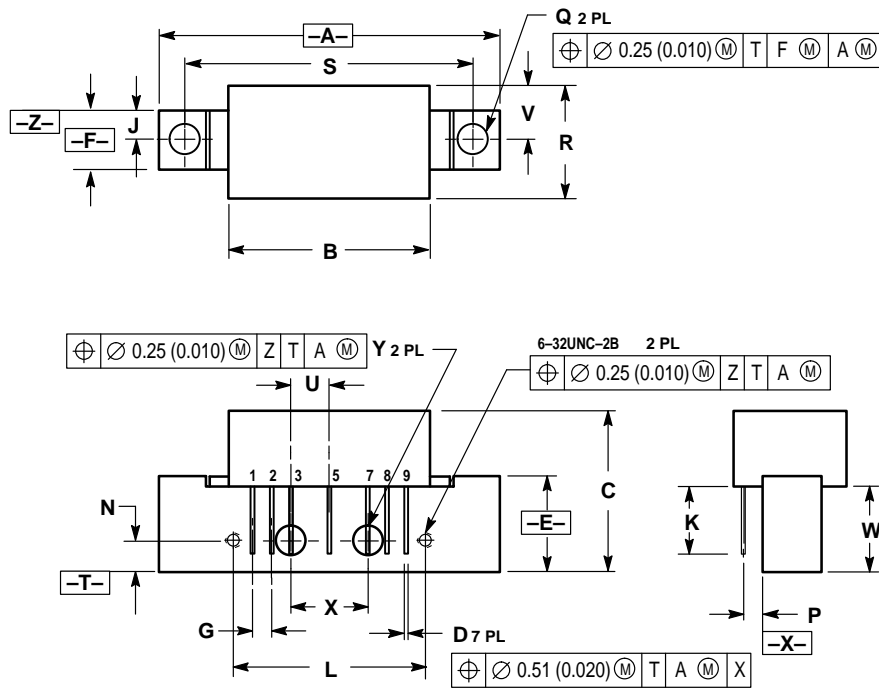


CASE 714Y-03, STYLE 1

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

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain	G_p	50 MHz	18.3	18.8	dB
		750 MHz	19	19.4	
Slope	S	0	0.4	1.0	dB
Gain Flatness (40–750 MHz, Peak to Valley)	—	—	0.3	0.6	dB
Return Loss — Input/Output ($Z_0 = 75 \text{ Ohms}$)	IRL/ORL	@ 40 MHz	19	—	dB
		@ f > 40 MHz (Derate)	—	—	
Composite Second Order ($V_{out} = +44 \text{ dBmV/ch.}$, Worst Case)	CSO ₁₁₀ CSO ₇₇	110-Channel FLAT	—	-72	dBc
		77-Channel FLAT	—	-80	
Cross Modulation Distortion @ Ch 2 ($V_{out} = +44 \text{ dBmV/ch.}$, FM = 55 MHz)	XMD ₁₁₀ XMD ₇₇	110-Channel FLAT	—	-66	dBc
		77-Channel FLAT	—	-69	
Composite Triple Beat ($V_{out} = +44 \text{ dBmV/ch.}$, Worst Case)	CTB ₁₁₀ CTB ₇₇	110-Channel FLAT	—	-64	dBc
		77-Channel FLAT	—	-70	
Noise Figure	NF	50 MHz	—	5.0	dB
		550 MHz	—	5.8	
		750 MHz	—	6.2	
DC Current ($V_{DC} = 24 \text{ V}$, $T_C = 30^\circ\text{C}$)	I_{DC}	365	400	435	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

CASE 714Y-03 ISSUE D

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How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
 P.O. Box 5405, Denver, Colorado 80217. 1-303-675-2140 or 1-800-441-2447

JAPAN: Nippon Motorola Ltd.: SPD, Strategic Planning Office, 4-32-1,
 Nishi-Gotanda, Shinagawa-ku, Tokyo 141, Japan. 81-3-5487-8488

Customer Focus Center: 1-800-521-6274

Mfax™: RMFAX0@email.sps.mot.com – TOUCHTONE 1-602-244-6609
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ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
 51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298

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