

The RF Line

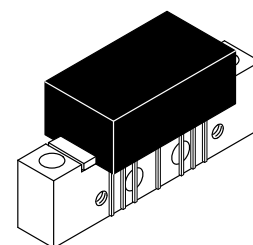
High Output Power Doubler

870 MHz CATV Amplifier

MHW8205L

20.4 dB GAIN
870 MHz
128-CHANNEL
CATV AMPLIFIER

- Specified for 77, 110 and 128-Channel Performance
- Broadband Power Gain — @ f = 870 MHz
G_p = 20.4 dB (Typ)
- Broadband Noise Figure
NF = 7.7 dB (Typ) @ 870 MHz
- 7 GHz f_T Ion-Implanted Transistors
- Composite Triple Beat — @ 128-Channel Loading
CTB = -66 dB (Typ)
- Lower DC Current Consumption and Superior DC Stability with Temperature



CASE 714Y-03, STYLE 1

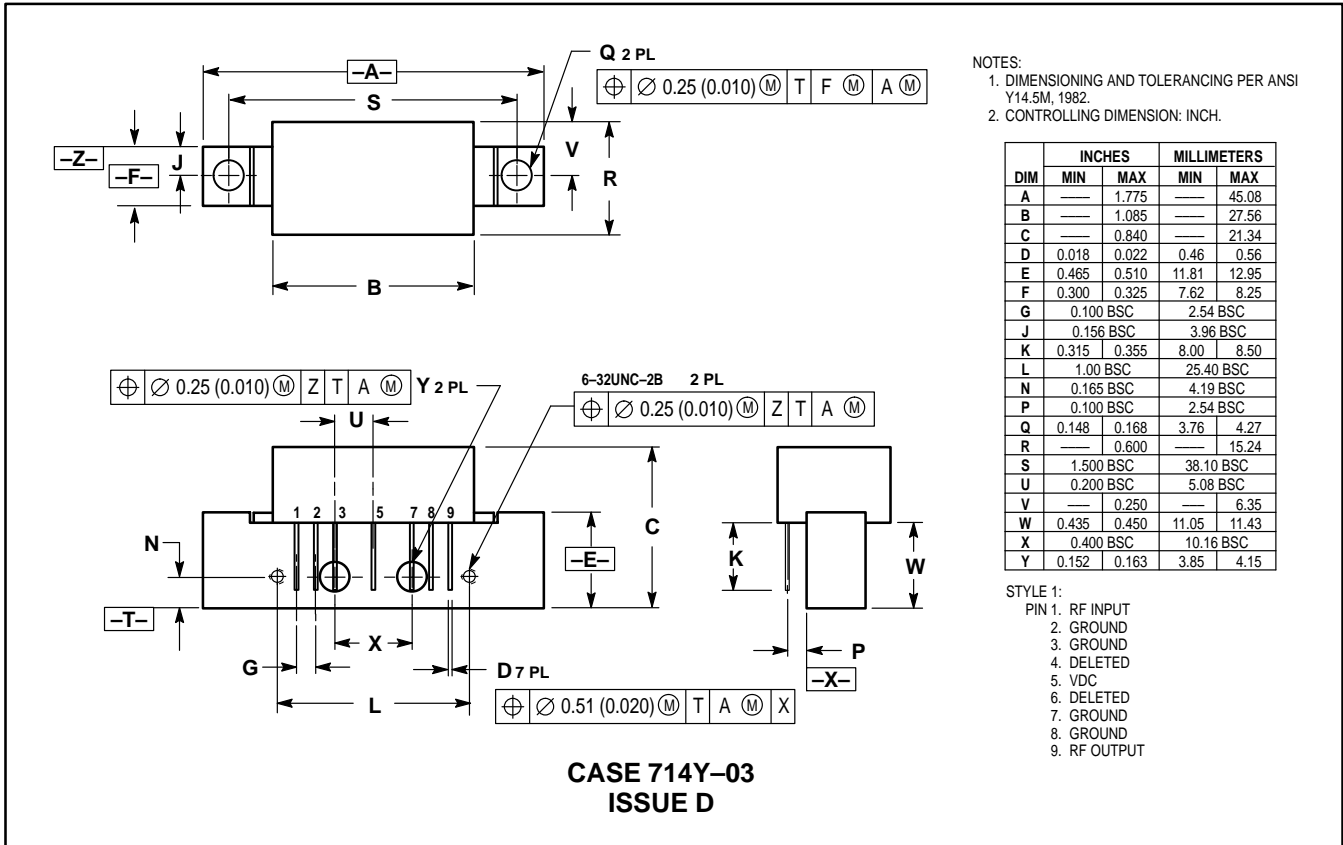
MAXIMUM RATINGS

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	—	870	MHz	
Power Gain	G _p	19	19.5	20	dB	
		870 MHz	19.8	20.4	21.3	
Slope	S	0.2	0.8	1.7	dB	
Gain Flatness (40-870 MHz, Peak to Valley)	—	—	0.5	1.0	dB	
Return Loss — Input/Output (Z ₀ = 75 Ohms)	IRL/ORL					
		20	—	—	dB	
		@ 40 MHz	—	—	dB/MHz	
		@ f > 40 MHz (Derate)	—	0.007		
Composite Second Order					dBc	
(V _{out} = +40 dBmV/ch., Worst Case)	128-Channel FLAT	CSO ₁₂₈	—	-69	-60	
(V _{out} = +44 dBmV/ch., Worst Case)	110-Channel FLAT	CSO ₁₁₀	—	-70	-63	
	77-Channel FLAT	CSO ₇₇	—	-80	-67	
Cross Modulation Distortion @ Ch 2					dBc	
(V _{out} = +40 dBmV/ch., FM = 55 MHz)	128-Channel FLAT	XMD ₁₂₈	—	-72	-64	
(V _{out} = +44 dBmV/ch., FM = 55 MHz)	110-Channel FLAT	XMD ₁₁₀	—	-65	-62	
	77-Channel FLAT	XMD ₇₇	—	-69	-66	
Composite Triple Beat					dBc	
(V _{out} = +40 dBmV/ch., Worst Case)	128-Channel FLAT	CTB ₁₂₈	—	-66	-63	
(V _{out} = +44 dBmV/ch., Worst Case)	110-Channel FLAT	CTB ₁₁₀	—	-63	-61	
	77-Channel FLAT	CTB ₇₇	—	-70	-68	
Noise Figure	NF	—	5.0	6.2	dB	
		50 MHz	—	5.8	—	
		550 MHz	—	6.2	—	
		750 MHz	—	7.7	8.5	
		870 MHz	—	—	—	
DC Current (V _{DC} = 24 V, T _C = -20°C to +100°C)	I _{DC}	345	365	385	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

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

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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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