

The RF Line

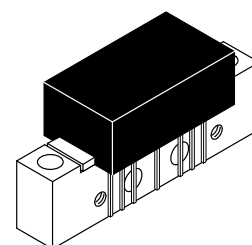
High Output Power Doubler

870 MHz CATV Amplifier

MHW8185LR

19.4 dB GAIN
870 MHz
128-CHANNEL
CATV AMPLIFIER

- Specified for 77, 110 and 128-Channel Performance
- Broadband Power Gain — @ f = 40–870 MHz
G_p = 19.4 dB (Typ)
- Lower DC Current Consumption
- Superior DC Current Stability with Temperature



CASE 714Y-03, STYLE 2

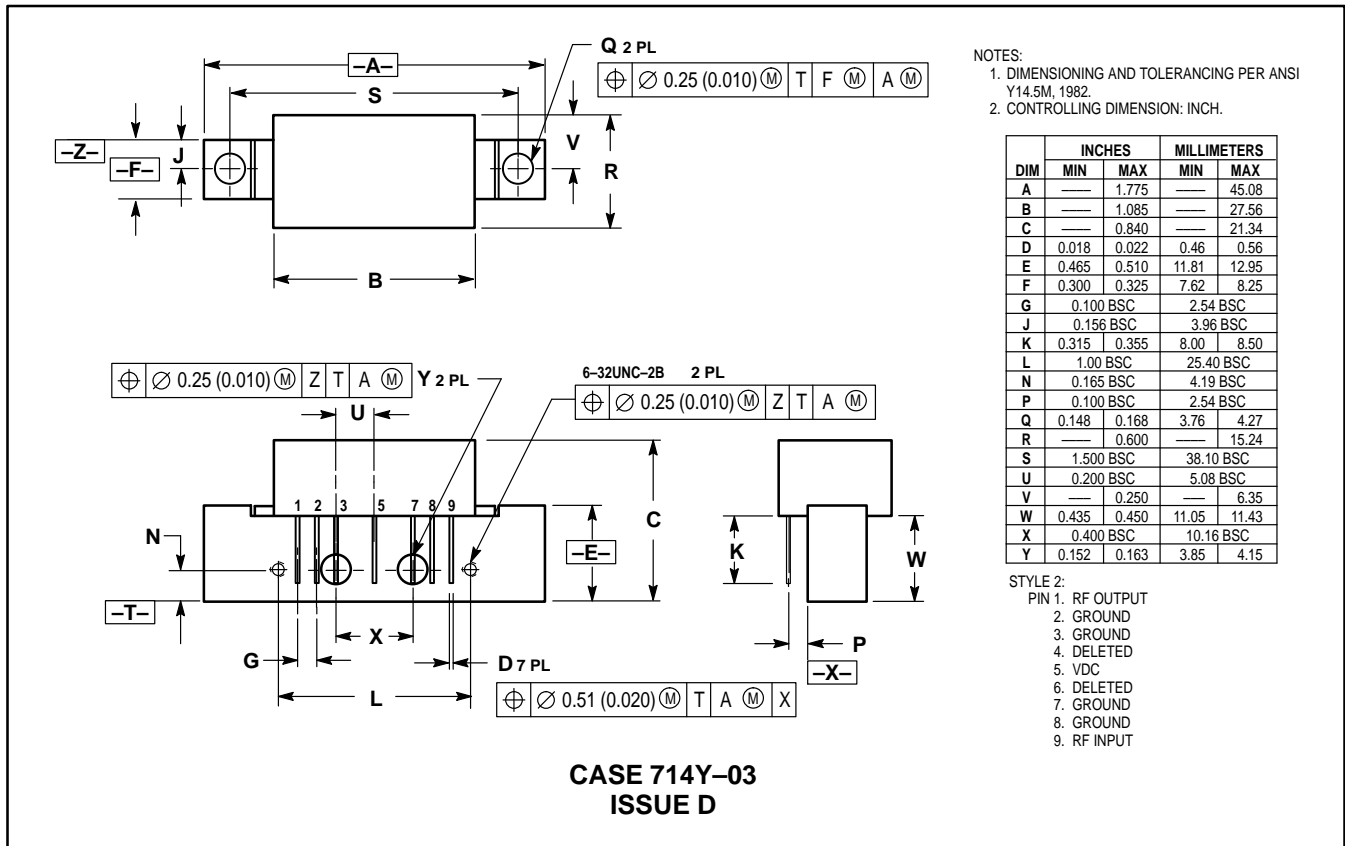
MAXIMUM RATINGS

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	18 19	18.5 19.4	19 20.5	dB
Slope	S	0.4	0.9	1.4	dB
Gain Flatness (40–870 MHz, Peak-to-Valley)	—	—	0.3	0.8	dB
Return Loss — Input/Output (Z ₀ = 75 Ohms)	IRL/ORL				
@ 40 MHz		20	—	—	dB
@ f > 40 MHz (Derate)		—	—	0.007	dB/MHz
Composite Second Order					dBc
(V _{out} = +40 dBmV/ch., Worst Case) 128-Channel FLAT	CSO ₁₂₈	—	-69	-62	
(V _{out} = +44 dBmV/ch., Worst Case) 110-Channel FLAT	CSO ₁₁₀	—	-70	-64	
(V _{out} = +44 dBmV/ch., Worst Case) 77-Channel FLAT	CSO ₇₇	—	-85	-68	
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	—	-66	-63	
(V _{out} = +44 dBmV/ch., FM = 55 MHz) 77-Channel FLAT	XMD ₇₇	—	-69	-67	
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	
(V _{out} = +44 dBmV/ch., Worst Case) 77-Channel FLAT	CTB ₇₇	—	-70	-68	
Noise Figure	NF	—	5.3 5.8 6.6 7.8	6.2 — — 8.5	dB
DC Current (V _{DC} = 24 V, T _C = -20 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 2:
 PIN 1. RF OUTPUT
 2. GROUND
 3. GROUND
 4. DELETED
 5. VDC
 6. DELETED
 7. GROUND
 8. GROUND
 9. RF INPUT

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