

The RF Line

High Output Power Doubler

750 MHz CATV Amplifier

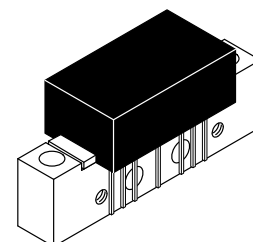
MHW7205C

- Specified for 77 and 110-Channel Performance
- Broadband Power Gain — @ $f = 40\text{--}750\text{ MHz}$
 $G_p = 20.2\text{ dB (Typ)}$
- Broadband Noise Figure
 $NF = 6.2\text{ dB (Typ)}$ @ 750 MHz
- All Gold Metallization
- 7 GHz f_T Ion-Implanted Transistors
- Composite Triple Beat — @ 110-Channel Loading
 $CTB = -63\text{ dB (Typ)}$

20.2 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

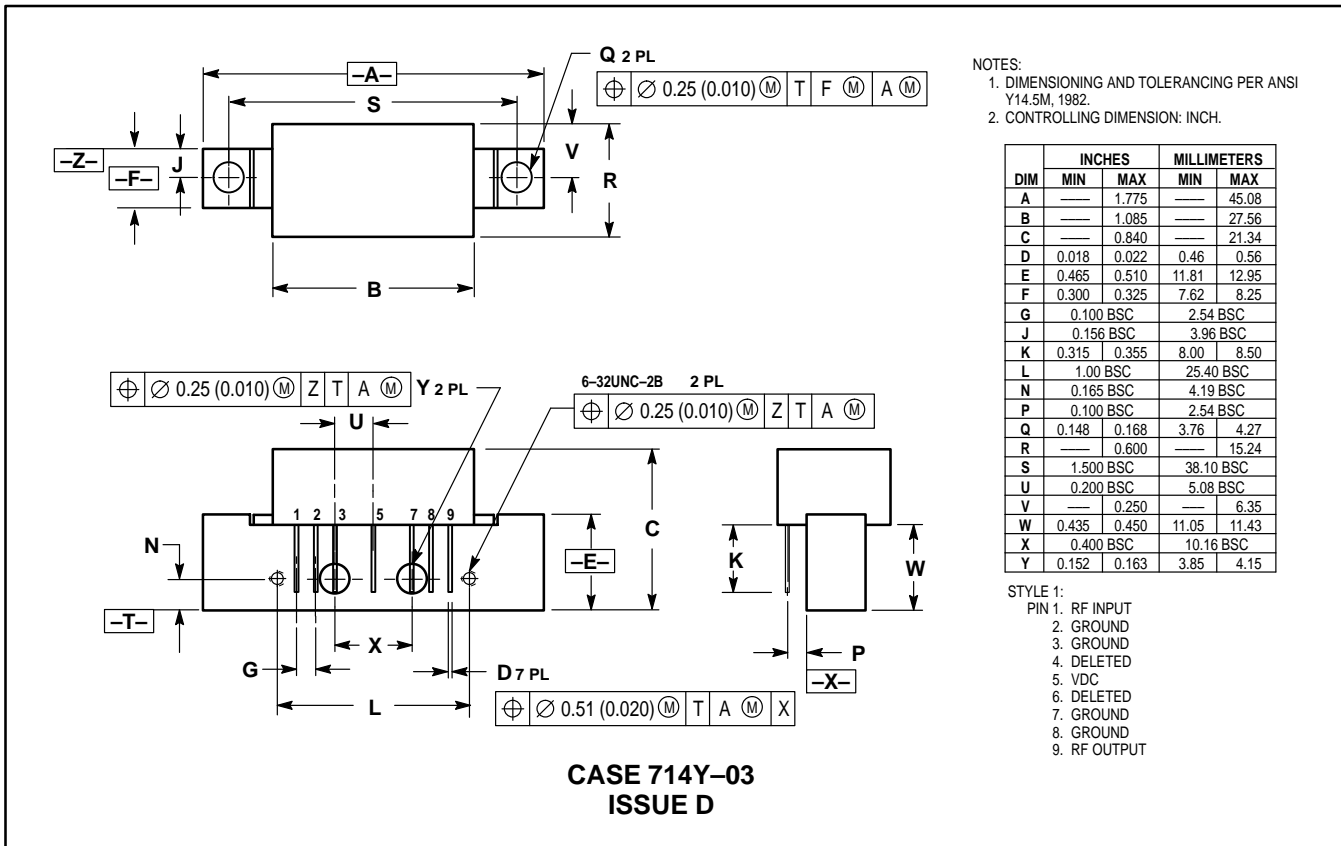


CASE 714Y-03, STYLE 1

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	19.3	19.8	20.3	dB
		750 MHz	20	20.2	21	
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
		@ $f > 40\text{ MHz}$ (Derate)	—	—	0.006	dB/MHz
Composite Second Order ($V_{out} = +44\text{ dBmV/ch.}$, Worst Case)	CSO ₁₁₀ CSO ₇₇	110-Channel FLAT	—	-70	-63	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	—	-65	-62	dBc
		77-Channel FLAT	—	-69	—	
Composite Triple Beat ($V_{out} = +44\text{ dBmV/ch.}$, Worst Case)	CTB ₁₁₀ CTB ₇₇	110-Channel FLAT	—	-63	-61	dBc
		77-Channel FLAT	—	-70	—	
Noise Figure	NF	50 MHz	—	5.0	6.0	dB
		550 MHz	—	5.8	—	
		750 MHz	—	6.2	7.5	
DC Current ($V_{DC} = 24\text{ V}$, $T_C = 30^\circ\text{C}$)	I_{DC}	365	400	435	mA	

PACKAGE DIMENSIONS



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