

# CATV Amplifier Module

## Features

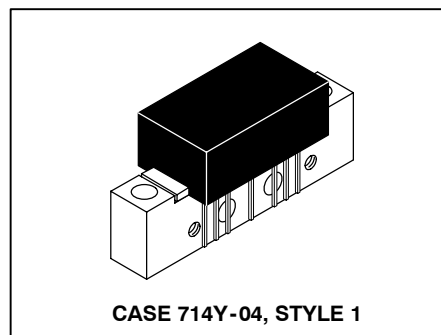
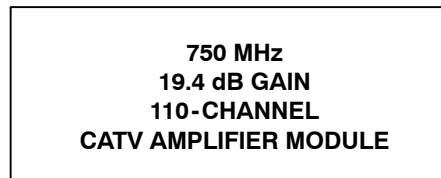
- Specified for 77- and 110-Channel Loading
- Excellent Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

## Applications

- CATV Systems Operating in the 40 to 750 MHz Frequency Range
- Output Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications

## Description

- 24 Vdc Supply, 40 to 750 MHz, CATV Forward Power Doubler Amplifier Module
- Replaced MHW7185C. There are no form, fit or function changes with this part replacement.
- RoHS Compliant



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**Table 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

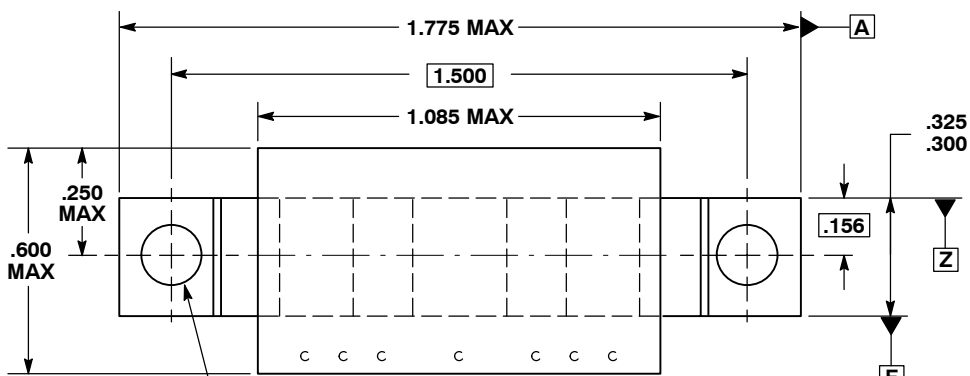
**Table 2. Electrical Characteristics** ( $V_{CC} = 24$  Vdc,  $T_C = +30^\circ\text{C}$ , 75  $\Omega$  system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain	$G_p$	18.3 19	18.8 19.4	19.3 20	dB
Slope	S	0	0.4	1.0	dB
Gain Flatness (40 - 750 MHz, Peak to Valley)	$G_F$	—	0.3	0.6	dB
Return Loss — Input/Output ( $Z_o = 75$ Ohms)	IRL/ORL	19 —	— —	— 0.006	dB dB/MHz
Composite Second Order ( $V_{out} = +44$ dBmV/ch., Worst Case)	$CSO_{110}$ $CSO_{77}$	— —	-72 -80	-64 -68	dBc
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +44$ dBmV/ch., FM = 55 MHz)	$XMD_{110}$ $XMD_{77}$	— —	-66 -70	-63 -68	dBc

**Table 2. Electrical Characteristics** ( $V_{CC} = 24 \text{ Vdc}$ ,  $T_C = +30^\circ\text{C}$ ,  $75 \Omega$  system unless otherwise noted) (continued)

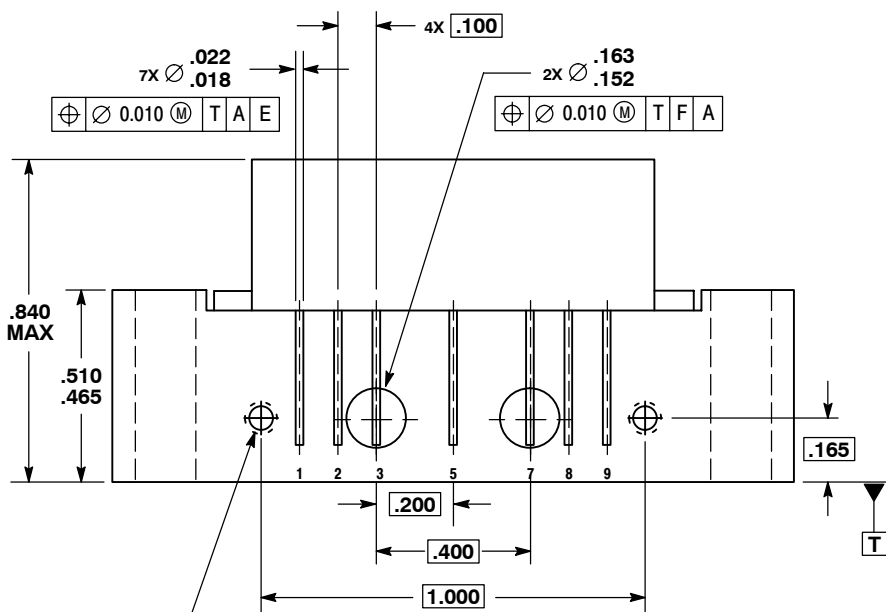
Characteristic		Symbol	Min	Typ	Max	Unit
Composite Triple Beat ( $V_{out} = +44 \text{ dBmV/ch.}$ , Worst Case)	110-Channel FLAT	$CTB_{110}$	—	-64	-62	dBc
	77-Channel FLAT	$CTB_{77}$	—	-71	-69	
Noise Figure	50 MHz	NF	—	5.0	6.0	dB
	550 MHz		—	5.8	—	
	750 MHz		—	6.2	7.5	
DC Current ( $V_{DC} = 24 \text{ V}$ , $T_C = 30^\circ\text{C}$ )		$I_{DC}$	365	400	435	mA

**PACKAGE DIMENSIONS**

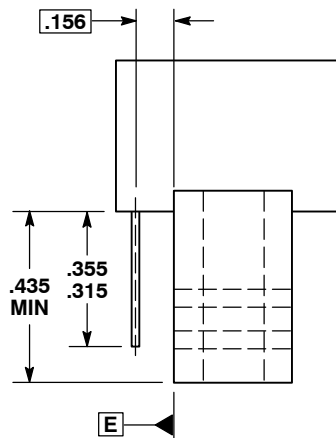


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- STYLE 1:  
 PIN 1. RF INPUT  
 2. GROUND  
 3. GROUND  
 4. DELETED  
 5. VDC  
 6. DELETED  
 7. GROUND  
 8. GROUND  
 9. RF OUTPUT



$\text{Ø}$	$\text{Ø}$	0.010	(M)	Z	T	A
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- NOTES:  
 1. INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 1994.  
 2. CONTROLLING DIMENSION: INCH.

**CASE 714Y-04  
 ISSUE H**

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**USA/Europe or Locations Not Listed:**  
Freescale Semiconductor  
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+1-800-521-6274 or +1-480-768-2130  
support@freescale.com

**Europe, Middle East, and Africa:**  
Freescale Halbleiter Deutschland GmbH  
Technical Information Center  
Schatzbogen 7  
81829 Muenchen, Germany  
+44 1296 380 456 (English)  
+46 8 52200080 (English)  
+49 89 92103 559 (German)  
+33 1 69 35 48 48 (French)  
support@freescale.com

**Japan:**  
Freescale Semiconductor Japan Ltd.  
Headquarters  
ARCO Tower 15F  
1-8-1, Shimo-Meguro, Meguro-ku,  
Tokyo 153-0064  
Japan  
0120 191014 or +81 3 5437 9125  
support.japan@freescale.com

**Asia/Pacific:**  
Freescale Semiconductor Hong Kong Ltd.  
Technical Information Center  
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