

v03.1007

ROHSV EARTH FRIENDLY



Typical Applications

Prescaler for 0.5 to 18 GHz PLL Applications:

- Point-to-Point / Multi-Point Radios
- VSAT Radios
- Fiber Optic
- Test Equipment
- Military & Space

Functional Diagram



HMC-C006 DIVIDE-BY-4 PRESCALER

MODULE, 0.5 - 18 GHz

Features

Ultra Low SSB Phase Noise: -150 dBc/Hz Very Wide Bandwidth Output Power: -4 dBm Single DC Supply: +5V Hermetically Sealed Module Field Replaceable SMA Connectors -55 to +85 °C Operating Temperature

General Description

The HMC-C006 is a low noise Divide-by-4 Static Divider utilizing InGaP GaAs HBT technology packaged in a miniature, hermetic module with replacable SMA connectors. This device operates from 0.5 to 18 GHz input frequency from a single +5V DC supply. The low additive SSB phase noise of -150 dBc/Hz at 100 kHz offset helps the user maintain excellent system noise performance.

Electrical Specifications, $T_{A} = +25^{\circ}$ C, 50 Ohm System, Vcc= +5V

Parameter	Conditions	Min.	Тур.	Max.	Units
Maximum Input Frequency		18	19		GHz
Minimum Input Frequency	Sine Wave Input			0.5	GHz
Input Power Range	Fin = 2 to 4 GHz	-15	-10	+10	dBm
	Fin = 4 to 12 GHz	-20	-15	+10	dBm
	Fin = 12 to 15 GHz	-20	-15	+5	dBm
	Fin = 15 to 18 GHz	-15	-10	0	dBm
Output Power	Fin = 0.5 to 18 GHz	-7	-4		dBm
Reverse Leakage	Fin = 0.5 to 18 GHz		60		dB
SSB Phase Noise (100 kHz offset)	Pin = 0 dBm, Fin = 4.8 GHz		-150		dBc/Hz
Output Transition Time	Pin = 0 dBm, Fout = 882 MHz		100		ps
Supply Current (Icc)			93		mA

HMC-C006* PRODUCT PAGE QUICK LINKS

Last Content Update: 02/23/2017

View a parametric search of comparable parts.

DOCUMENTATION

Data Sheet

• HMC-C006 Data Sheet

REFERENCE MATERIALS

Technical Articles

 Wideband Amplifier and Prescaler Modules Cover DC to 20 GHz

DESIGN RESOURCES

- HMC-C006 Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

DISCUSSIONS

View all HMC-C006 EngineerZone Discussions.

SAMPLE AND BUY

Visit the product page to see pricing options.

TECHNICAL SUPPORT

Submit a technical question or find your regional support number.

DOCUMENT FEEDBACK

Submit feedback for this data sheet.



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15 10 5 INPUT POWER (dBm) 0 Recommended Operating Window -5 -10 -15 1 -20 -25 2 0 4 6 8 10 12 14 16 18 20 INPUT FREQUENCY (GHz)

Input Sensitivity Window, T= 25 °C

Output Power vs. Temperature







DIVIDE-BY-4 PRESCALER MODULE, 0.5 - 18 GHz

Input Sensitivity vs. Temperature



SSB Phase Noise Performance, Pin= 0 dBm, T= 25 °C



Reverse Leakage, Pin= 0 dBm, T= 25 °C



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Output Voltage Waveform, Pin= 0 dBm, Fout= 882 MHz, T= 25 °C



DIVIDE-BY-4 PRESCALER MODULE, 0.5 - 18 GHz

Absolute Maximum Ratings

Supply Voltage (Vcc)	+5.5V	
RF Input (Vcc = +5V)	+13 dBm	
Storage Temperature	-65 to +150 °C	
Operating Temperature	-55 to +85 °C	
ESD Sensitivity (HBM)	Class 1A	



ELECTROSTATIC SENSITIVE DEVICE OBSERVE HANDLING PRECAUTIONS

Typical Supply Current vs. Vcc

Vcc	Icc (mA)	
4.75	82	
5.00	93	
5.25	104	

Note: Divider will operate over full voltage range shown above

Pin Description

Pin Number	Function	Description	Interface Schematic
1	RFIN & RF Ground	RF input connector, SMA female, field replaceable. RF Input is AC coupled.	
2	RFOUT & RF Ground	RF output connector, SMA female, field replaceable. Divided output is AC coupled.	
3	Vcc	Supply voltage 5V ± 0.25V.	
4	GND	Power supply ground.	GND =

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DIVIDE-BY-4 PRESCALER MODULE, 0.5 - 18 GHz



Outline Drawing



Package Information

Package Type	C-1	
Package Weight ^[1]	10.2 gms ^[2]	
Spacer Weight	N/A	

[1] Includes the connectors

[2] ±1 gms Tolerance

NOTES:

- 1. PACKAGE, LEADS, COVER MATERIAL: KOVAR™
- 2. BRACKET MATERIAL: ALUMINUM
- 3. PLATING: ELECTROLYTIC GOLD 50 MICROINCHES MIN., OVER ELECTROLYTIC NICKEL 75 MICROINCHES MIN.
- 4. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS].
- 5. TOLERANCES ±.005 [0.13] UNLESS OTHERWISE SPECIFIED.
- 6. FIELD REPLACEABLE SMA CONNECTORS. TENSOLITE 5602 - 5CCSF OR EQUIVALENT.
- ▲ TO MOUNT MODULE TO SYSTEM PLATFORM REPLACE 0 -80 HARDWARE WITH DESIRED MOUNTING SCREWS.

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