



## MDS Series Frequency Multipliers & Dividers

# PICTURE TO BE INSERTED

### Introduction

The MDS series are frequency multipliers and dividers with ultra-low phase noise. They can be used to multiply and divider an RF signal without degrading the phase noise.

There are various models available as shown below:

- **MDS5-10:** 5 MHz input with 5 x 10 MHz outputs
- **MDS5-100:** 5 MHz input with 5 x 100 MHz outputs
- **MDS10-100:** 10 MHz input with 5 x 100 MHz outputs
- **MDS10-5:** 10 MHz input with 5 x 5 MHz outputs
- **MDS100-5:** 100 MHz input with 5 x 5 MHz outputs
- **MDS100-10:** 100 MHz input with 5 x 10 MHz outputs

\* Other frequencies are optional available, such as 20 MHz, 40 MHz, 80 MHz, 90 MHz

Up to three modules can be included in a 1U 19" rack mount case. Therefore, up to three inputs and 15 outputs are available.

These products are made to the customers specifications. The following specifications, on the next page, give an idea of what performance is possible.

Specification Parameter	Specification	Comments
<b>Input</b>		
Frequency / Bandwidth (3 dB)	5, 10 or 100 MHz	Depending upon model
Input Impedance / Return Loss	50 $\Omega$ / < 15 dB	Return Loss typical < 20 dB
Input Level	+13 dBm	Different input levels optionally available
<b>Sinewave Outputs (5)</b>		
Output Waveform	Sinewave	
Number of Outputs	Five	
Output Frequency	5 MHz, 10 MHz, 20 MHz, 40 MHz, 80 MHz, 90 MHz, 100 MHz	Depending upon model
Output Return Loss	< 15 dB	Return Loss typical < 20 dB
Output level	Can be factory set from 0 to 19 dBm	
Harmonic Distortion	-45 dBc (typically -55 dBc)	Output set to +13 dBm
Phase Noise As referred to input phase noise	<-140 dBc @ 1 Hz, <-150 @ 10 Hz, <-155 @ 100 Hz, <-162 dB @ 1 kHz, < 165 dB @ 10 kHz and 100 kHz	
Channel to channel isolation	> 80 dB	At 10 MHz Outputs
Input to Output Isolation	> 100 dB	At 10 MHz Outputs
Temperature delay coefficient	50 ps/°C for multipliers and 20 ps for dividers	Typical over range 0 to 50 °C
<b>General</b>		
Power: AC ( $\pm$ 10%) / DC	115 or 230 VAC / 11-13 VDC @ 1.4 A	50 Watts max / 0.5 Amps
Size and weight	483 x 300 x 44mm and 2.8 kg	Width x Depth x Height
Ambient Operating Temperature	-10°C to +50 °C	

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Full specifications available from [www.ptsyst.com](http://www.ptsyst.com). Specifications and features subject to change without notice