

# Frequency Doubler

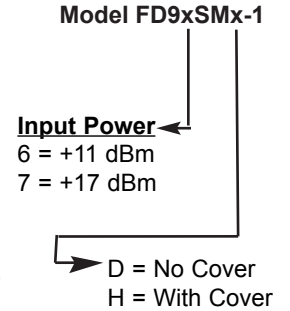
## High Isolation, In-line Output

# Model FD9xSMx-1

Input 2.0 to 10.0 GHz  
Output 4.0 to 20.0 GHz

### Electrical Specifications<sup>(1)</sup>:

Parameter	Conditions		Specifications		
	Input (GHz)	Output (GHz)	Min	Typical	Max
Insertion Loss: <sup>(2)</sup>	2.0-9.0	4.0-18.0		11.0 dB	13.0 dB
	2.0-10.0	4.0-20.0		11.5 dB	15.0 dB
Fundamental Isolation: <sup>(3)</sup>	2.0-10.0	4.0-10.0	25 dB	32 dB	
Third Harmonic Suppression: <sup>(4)</sup>	2.0-10.0	4.0-20.0	20 dBc	26 dBc	
Input VSWR:	2.0-5.0	4.0-10.0		2.5:1	
	5.0-10.0	10.0-20.0		1.8:1	
Input Power:	2.0-10.0	4.0-20.0		+11 dBm +17 dBm	FD96 FD97



### Notes:

- Specifications are guaranteed when tested as a doubler in a 50 Ohm system at +25°C with nominal input power. Specifications indicated as typical are not guaranteed.
- Insertion loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C.
- Fundamental isolation is referenced to the fundamental input.
- Third Harmonic Suppression is referenced to the second harmonic output.

## FD9xSMD-1

Outline: SMD3

TOLERANCE:  
INCHES .XX±.02  
.XXX±.010  
mm .XX±.25

## Typical Performance at 25°C

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## FD9xSMH-1

Outline: SMDH3

TOLERANCE:  
INCHES .XX±.02  
.XXX±.010  
mm .XX±.25

NOTES: (UNLESS OTHERWISE SPECIFIED)  
1. "IN" AND "OUT" TRACES ARE ELECTROPLATED TIN, SUITABLE FOR SOLDER ATTACH.  
2. RELIEF ON MOUNTING SURFACE REQUIRED FOR COMPONENT CLEARANCE AND OPTIMUM PERFORMANCE.

All dimensions are in inches and [mm].

