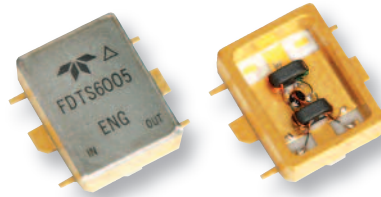




**High Performance Frequency Doublers**  
*Typical and Guaranteed Specifications—50 Ω System*



Model	Frequency MHz		Power In dBm LO	Conversion Loss dB		Fund Supp. dBc		3rd Harmonic Supp. dBc		5th Harmonic Supp. dBc	
	Input	Output		Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.
<b>Available in Surface Mount Mixer, SMT0-8, and Cougar MixerPak</b>											
FDS6005	0.05-1500	0.1-3000	13	10.5	12.5	35	25	45	30	55	40
	0.05-3000	0.1-6000	13	12.0	14.0	35	25	45	30		
FDMP20401	3000-8000	6000-16000	10	10.0	11.5	32	25	38	28	50	40
	2000-10000	4000-20000	10	10.5	12.0	32	25	38	28		
FDMP24601	3000-12000	6000-24000	10	11.0	13.5	25	30	28	35	48	38

Current data sheets available on website.

# FDS6005

## 0.05 TO 3.0 GHz: INPUT 0.1 to 6.0 GHz: OUTPUT SMT0-8 FREQUENCY DOUBLER

Typical Values		FDS6005
Input Frequency	.....	0.05 - 3.0 GHz
Output Frequency	.....	0.1 - 6.0 GHz
Conversion Loss	.....	11.0 dB
Input Drive (nominal)	.....	+13.0 dBm
High Fundamental Suppression	.....	40.0 dBc
Surface Mount Package		

### SPECIFICATIONS\*

Parameter	Port	Frequency (GHz)	Guaranteed -55 to +85 °C		
			Typ. (dB)	Max. (dB)	
SSB Conversion Loss and SSB Noise Figure	f <sub>IN</sub>	0.05 to 1.5	10.5	12.5	
	f <sub>OUT</sub>	0.1 to 3.0	10.5	12.5	
	f <sub>IN</sub>	0.05 to 3.0	12.0	14.0	
	f <sub>OUT</sub>	0.1 to 6.0	12.0	14.0	
Suppression <sup>^</sup>			Typ. (dB)	Min. (dB)	
	Fundamental	f <sub>IN</sub>	0.05 to 0.5	35	25
		f <sub>IN</sub>	0.5 to 2.0	40	30
		f <sub>IN</sub>	2.0 to 3.0	35	25
	Third Harmonics	f <sub>IN</sub>	0.05 to 3.0	45	30
Fifth Harmonics	f <sub>IN</sub>	0.05 to 3.0	55	40	

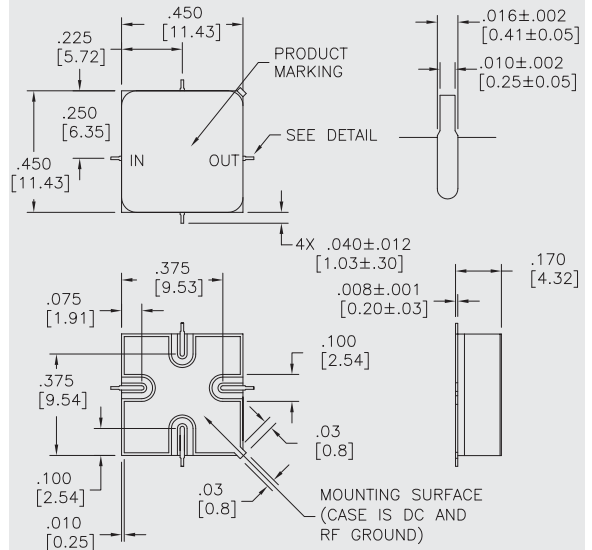
\* Measured in a 50-ohm system with nominal Input drive of +13 dBm.  
^ Fundamental and harmonic suppression is referenced to the fundamental input.

### ABSOLUTE MAXIMUM RATINGS

Storage Temperature	.....	-65 to +125 °C
Peak Input Power	.....	+23 dBm @ 25 °C derate to +17 dBm @ 100 °C
Peak Input Current @ 25 °C	.....	50 mA DC

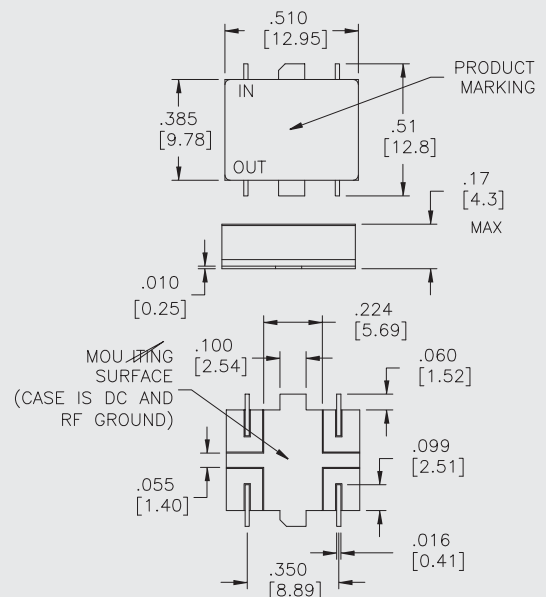
### FDS6005

#### SMT0-8 Surface Mount Package for Frequency Doubler



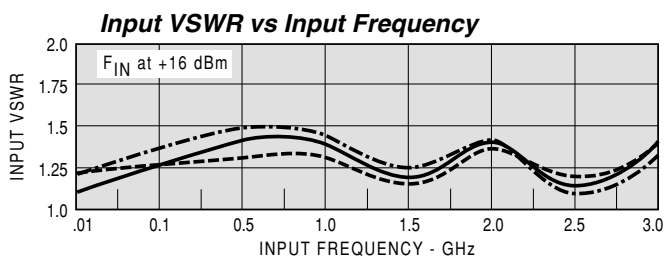
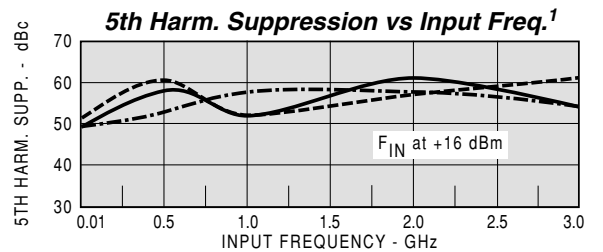
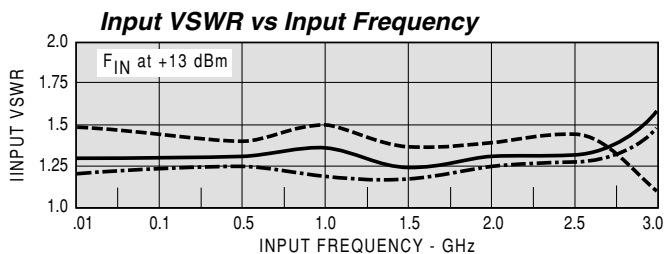
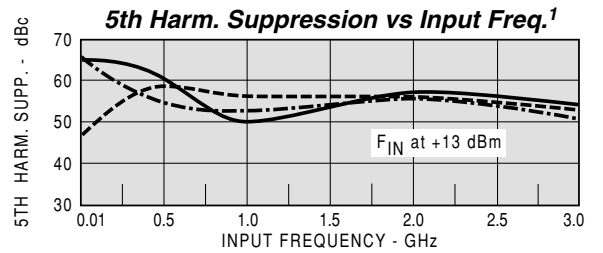
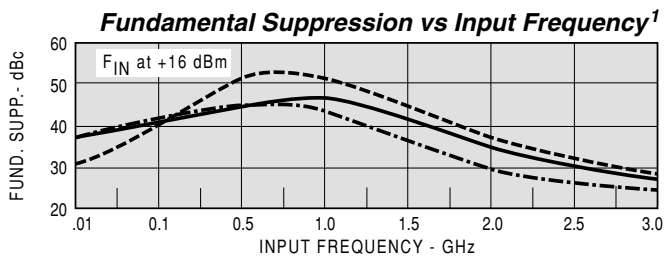
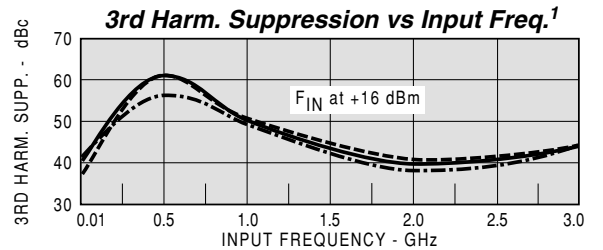
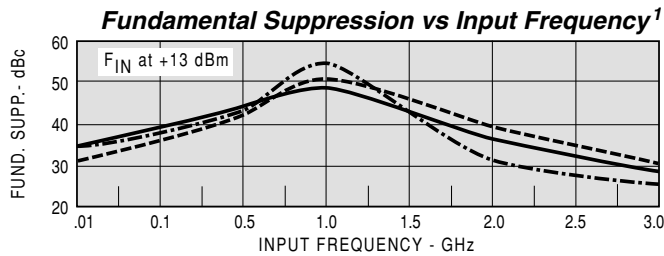
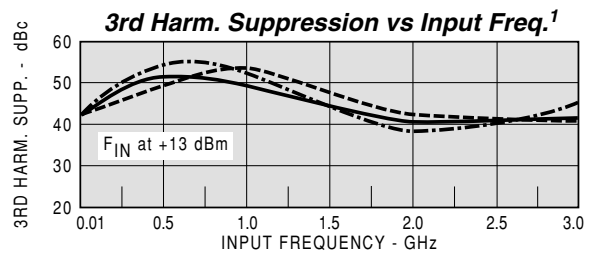
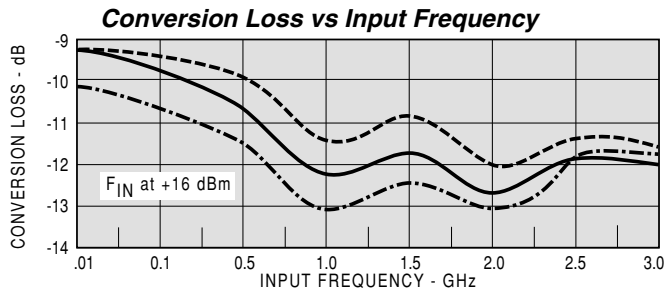
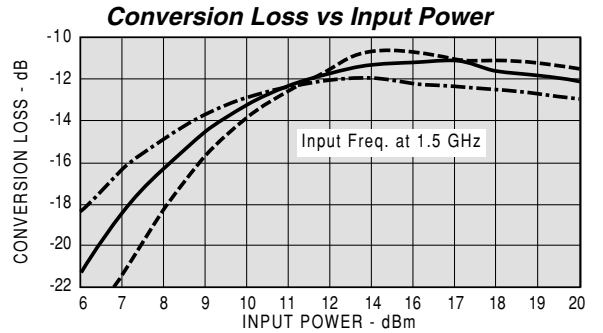
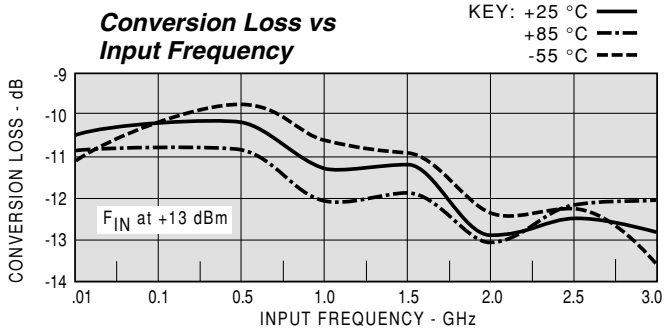
### FDT56005

#### Surface Mount Package for Frequency Doubler



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**



# FDMP20401

**2.0 TO 10.0 GHz: INPUT**  
**4.0 TO 20.0 GHz: OUTPUT**  
**FREQUENCY DOUBLER**

Typical Values	FDMP20401
Input Frequency .....	2.0 - 10.0 GHz
Output Frequency .....	4.0 - 20.0 GHz
Conversion Loss .....	10.5 dB
Input Drive (nominal) .....	+10.0 dBm
High Fundamental Suppression .....	40.0 dBc
Seam Sealed Hermetic Cougar MixerPak Package	

## SPECIFICATIONS\*

Parameter	Port	Frequency (GHz)	Guaranteed -55 to +85 °C	
			Typ. (dB)	Max. (dB)
SSB Conversion Loss and SSB Noise Figure	f <sub>IN</sub>	3.0 to 8.0	10.0	11.5
	f <sub>OUT</sub>	6.0 to 16.0	10.0	11.5
		2.0 to 10.0	10.5	12.0
		4.0 to 20.0	10.5	12.0
Suppression <sup>^</sup>			Typ. (dB)	Min. (dB)
	Fundamental	f <sub>IN</sub> 2.0 to 10.0	32	25
	Third Harmonics	f <sub>IN</sub> 2.0 to 4.0	50	40
		f <sub>IN</sub> 4.0 to 8.0	38	28
		f <sub>IN</sub> 8.0 to 10.0	45	32
Fifth Harmonics	f <sub>IN</sub> 2.0 to 10.0	50	40	

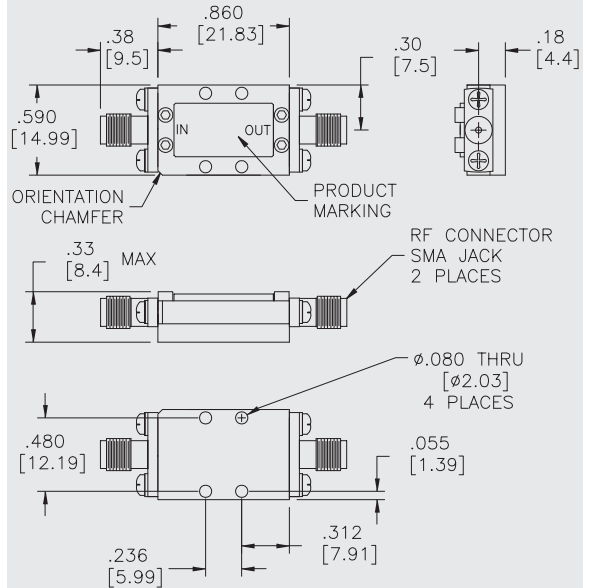
\* Measured in a 50-ohm system with nominal Input drive of +10 dBm.  
^ Fundamental and harmonic suppression is referenced to the fundamental input.

## ABSOLUTE MAXIMUM RATINGS

Storage Temperature .....	-65 to +125 °C
Peak Input Power .....	+23 dBm @ 25 °C
	derate to +17 dBm @ 100 °C
Peak Input Current @ 25°C .....	50 mA DC

## FDMP20401

### Cougar MixerPak for Frequency Doubler



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

KEY: +25 °C —  
+85 °C - - -  
-55 °C - - -

