



# SME1400B-17

Broadband Surface Mount Mixer

The Communications Edge™

## Product Features

- RF 1 to 2200 MHz
- LO 1 to 2200 MHz
- IF 1 to 2000 MHz
- LO Drive: +17 dBm (Other Levels Available)
- No Internal Solder Connections

## Product Photo



## Specifications

Parameter	Units	Typical	Guaranteed	
			+25°C	-40° to +70°C
SSB Conversion Loss				
RF/LO = 10-1300 MHz, IF = 10-1000 MHz	dB	6.5	8.0	8.5
RF/LO = 10-2200 MHz, IF = 30-1000 MHz	dB	7.5	9.0	9.5
RF/LO = 1-2200 MHz, IF = 1-2000 MHz	dB	8.0		
Port-to-Port Isolation				
L-R = 10-1500 MHz	dB	30	20	21
L-R = 10-2200 MHz	dB	25	15	17
L-I = 10-2000 MHz	dB	26	19	20
L-I = 10-2200 MHz	dB	22	15	16
R-I	dB	25		
3rd Order Input Intercept Point	dBm	27		
VSWR				
R-Port = 600-2000 MHz		1.7:1		
R-Port = 10-2200 MHz		2.0:1		
L-Port = 600-2000 MHz		1.6:1		
L-Port = 10-2200 MHz		2.0:1		
I-Port		1.8:1		
1 dB Conversion Compression	dBm	+13		

1. Measured in a 50-ohm system with nominal LO drive of +17 dBm, low side LO, and downconverter application only, unless otherwise specified.

2. Measured at LO = 400-2100 MHz, RF = 500-2200 MHz, IF = 100 MHz, unless otherwise specified.

## Absolute Maximum Ratings

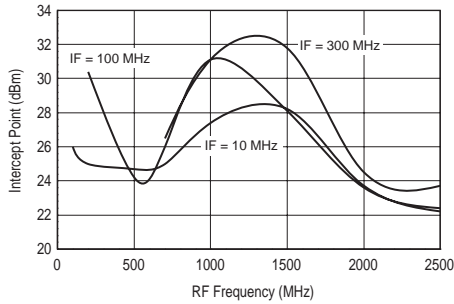
Parameter	Rating
Operating Temperature	-40 to +70°C
Storage Temperature	-65 to +100°C
RF Input Power	+23 dBm at +25°C

## Ordering Information

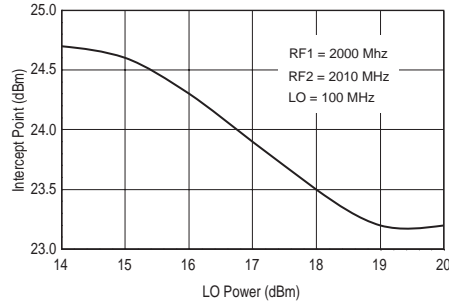
Part No.	Description
SME1400B-17	Mixer (Available in tape and reel)
SME1400B-17-PCB	Fully assembled application circuit

## Performance Charts

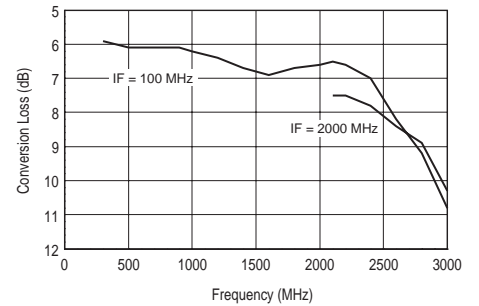
### IIP3 vs. Frequency



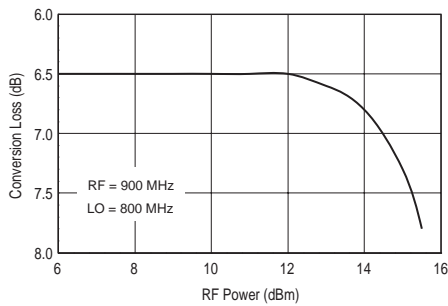
### IIP3 vs. LO Power



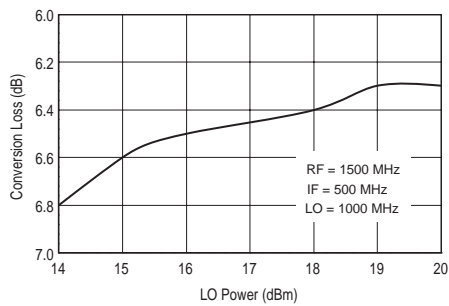
### Conversion Loss vs. Frequency



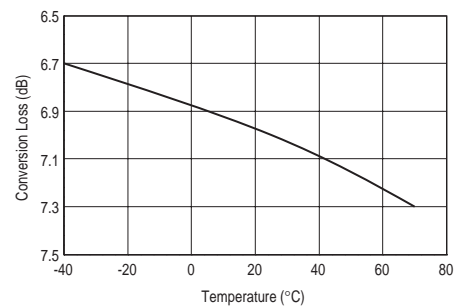
### Conversion Loss vs. RFPower



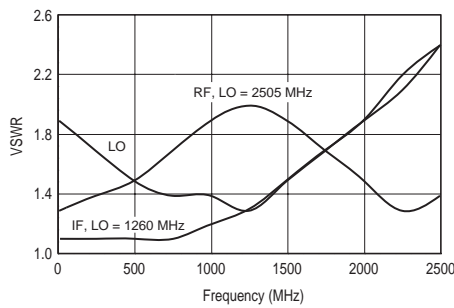
### Conversion Loss vs. LO Power



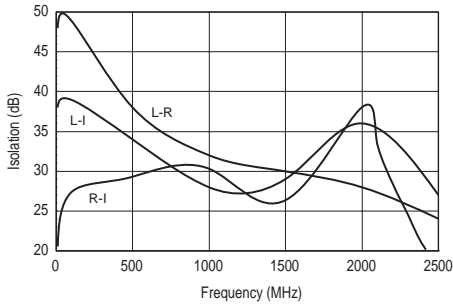
### Conversion Loss vs. Temperature



### VSWR vs. Frequency



### Isolation vs. Frequency



## Single-Tone IM Products

Harmonics of RF	Harmonics of fLO					
	0	1	2	3	4	5
0	22	27	28	39	34	
1	17	0	19	23	39	46
2	64	60	61	60	65	73
3	>80	77	>80	78	>80	>80
4	>80	>80	>80	>80	>80	>80
5	>80	>80	>80	>80	>80	>80

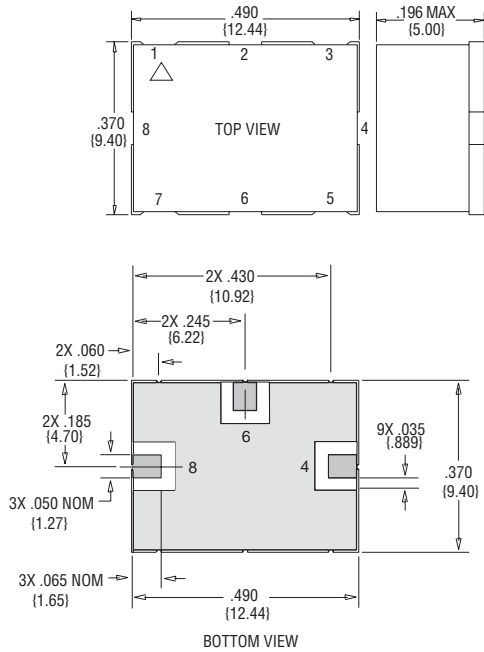
LO Mult	RF Mult	LO MHz	RF MHz	MHz	IM Prod dB
0	1	2150	2200	2200	17
0	2	2150	2200	4400	64
0	3	2150	2200	6600	81
0	4	2150	2200	8800	86
0	5	2150	2200	11000	86
1	0	2150	2200	2150	22
-1	1	2150	2200	50	0
-1	2	2150	1100	50	60
-1	3	2150	734	52	77
-1	4	2150	550	50	92
-1	5	2150	440	50	89
2	0	2150	2200	4300	27
-2	1	2150	4350	50	19
-2	2	2150	2175	50	61
-2	3	2150	1450	50	85
-2	4	2150	1088	52	90
-2	5	2150	870	50	88
3	0	2150	2200	6450	28
-3	1	2150	6500	50	23
-3	2	2150	3250	50	60
-3	3	2150	2167	51	78
-3	4	2150	1625	50	89
-3	5	2150	1300	50	88
4	0	2150	2200	8600	39
-4	1	2150	8650	50	39
-4	2	2150	4325	50	65
-4	3	2150	2884	52	81
-4	4	2150	2163	52	90
-4	5	2150	1730	50	87
5	0	2150	2200	10750	34
-5	1	2150	10800	50	46
-5	2	2150	5400	50	73
-5	3	2150	3600	50	88
-5	4	2150	2700	50	89
-5	5	2150	2160	50	89

Test Conditions RF at -10 dBm, LO at +17 dBm

RF harmonics and intermodulation products are referenced to a desired signal produced by fRF = 2200 MHz and fLO = 2150 MHz.

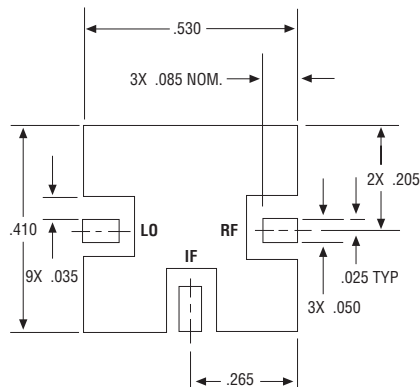
LO harmonics are referenced to the LO drive signal.

## Outline Drawing



Function	Pin No.
RF	4
LO	8
IF	6
GND	1,2,3,5,7

## Land Pattern



Specifications and information are subject to change without notice.



Caution! ESD sensitive device.

