

Frequency Mixers

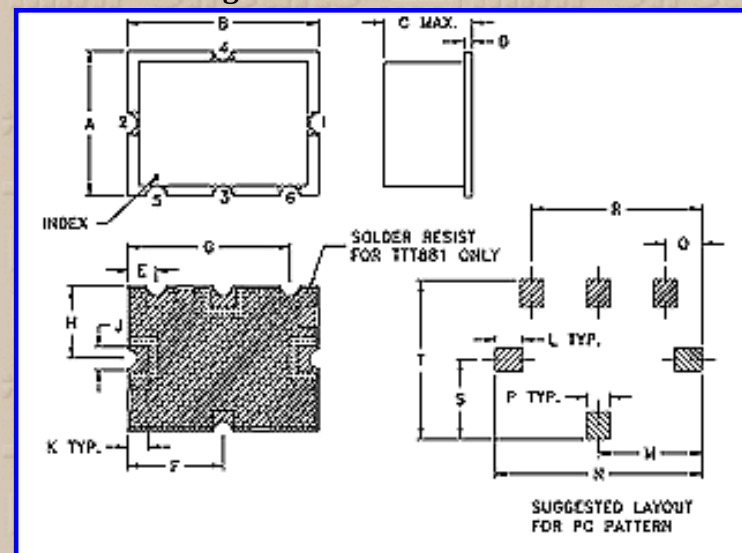
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LO Power Level 17 dBm

Pin Configuration

Port	LO	RF	IF	Gnd Ext.	Case Gnd	Not Used
x	2	1	3	4,5,6	-	-

Outline Drawing



Case Style - TTT167 (inch,mm) weight: 0.8 grams.

A	B	C	D	E	F	G	H	J
.375	.500	.23	.020	.075	.250	.425	.187	.050
9.525	12.700	5.842	0.508	1.905	6.350	10.795	4.750	1.270
K	L	M	N	P	Q	R	S	T
.050	.070	.270	.540	.060	.095	.445	.208	.415
1.270	1.778	6.858	13.716	1.524	2.413	11.303	5.283	10.541

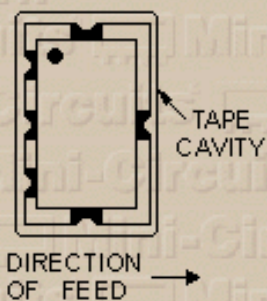
Tolerance: .x ± .1 .xx ± .03 .xxx ± .015 inch.

Material and Finish:

Case material: plastic or copper-nickel alloy, Glass Epoxy
Laminate or ceramic base. Termination finish: tin-lead plate or tin plate.

Packaging:

UNIT ORIENTATION



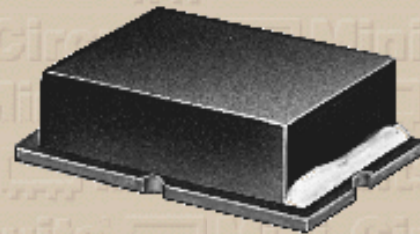
Packaging information:

Tape Width(mm): 24
Reel Size(inches): 13
Device Cavity Pitch(mm): 12
Devices Per Reel: 500

Notes:

- +17 dBm LO, up to +14 dBm RF
- Absolute maximum power, voltage and current ratings:
 - RF power, 200mW
 - Peak IF current, 40mA
- For Surface Mount Environmental Specifications, please click [here](#).
- General Quality Control Procedures and Environmental Specifications are given in [Mini-Circuits Guarantees Quality](#). Hi-Rel, MIL description are given in [Hi-Rel and MIL](#).
- Prices and Specifications subjects to change without notice.

SYM-18H



Electrical Specifications

SYM-18H LO Power Level 17 dBm

Frequency MHz		Max. Conversion Loss dB		Min. LO-RF Isolation dB			Min. LO-IF Isolation dB		
LO/RF	IF	Mid-Band	Total Range	L	M	U	L	M	U
5.00-1800	10-1500	7.6	8.9	28	35	24	22	30	22

L=low range(f_L to $10f_L$) M=mid range($10f_L$ to $f_U/2$) U=upper range($f_U/2$ to f_U)

Typical Performance Data

SYM-18H		Conversion Loss (dB)			ISO	Isolation L-R (dB)			Isolation L-I (dB)		
RF MHz	LO MHz	LO +14 dBm	LO +17 dBm	LO +20 dBm	LO (MHz)	LO +14 dBm	LO +17 dBm	LO +20 dBm	LO +14 dBm	LO +17 dBm	LO +20 dBm
5.000	35.000	6.11	5.61	5.31	35.000	44.90	50.30	54.60	36.10	38.90	41.70
8.000	38.000	5.83	5.53	5.33	38.000	45.60	50.90	54.80	36.40	39.40	42.10
10.000	40.000	6.06	5.56	5.36	40.000	45.70	51.30	55.20	36.40	39.60	42.40
50.000	80.000	5.81	5.41	5.21	80.000	50.80	55.80	58.10	38.30	42.20	46.10
100.000	130.000	5.69	5.39	5.19	130.000	53.60	54.70	54.90	39.20	44.40	48.60
110.475	140.475	5.64	5.34	5.14	140.475	53.50	53.80	54.30	39.30	44.10	47.80
220.450	250.450	6.18	5.68	5.38	250.450	48.20	48.00	48.00	41.90	48.90	46.00
330.425	360.425	6.41	5.61	5.31	360.425	46.20	45.10	44.70	43.60	53.30	42.20
440.400	470.400	6.62	5.72	5.42	470.400	46.00	44.40	44.00	43.50	52.20	41.70
500.000	530.000	6.35	5.55	5.35	530.000	45.90	44.30	43.50	45.30	48.10	40.90
550.375	580.375	6.35	5.65	5.35	580.375	47.40	45.40	44.20	48.80	48.00	41.40
660.350	690.350	6.42	5.82	5.62	690.350	49.40	47.50	45.60	41.50	43.10	40.70
770.325	800.325	6.71	6.21	6.01	800.325	50.80	50.80	48.40	38.50	40.00	39.40
880.300	910.300	6.86	6.46	6.16	910.300	52.20	52.20	48.60	36.00	38.70	39.60
990.275	1020.275	7.12	6.72	6.52	1020.275	64.40	53.70	46.90	34.90	37.60	39.20
1000.000	1030.000	6.97	6.57	6.37	1030.000	62.10	52.40	46.50	34.90	37.70	39.30
1100.250	1130.250	6.89	6.39	6.29	1130.250	49.40	46.80	43.80	33.40	36.10	38.20
1210.225	1240.225	7.22	6.72	6.42	1240.225	43.20	42.30	41.10	30.70	33.40	35.60
1320.200	1350.200	7.76	6.96	6.66	1350.200	39.90	38.90	38.10	28.50	31.20	33.20
1800.000	1830.000	8.19	7.39	7.09	1830.000	31.20	32.00	33.20	28.80	30.20	33.00

RF/LO	VSWR RF port			VSWR LO port			IF	VSWR IF port		
FREQ. (MHz)	LO +14 dBm	LO +17 dBm	LO +20 dBm	LO +14 dBm	LO +17 dBm	LO +20 dBm	FREQ. (MHz)	LO +14 dBm	LO +17 dBm	LO +20 dBm
35.000	1.68	1.58	1.52	1.10	1.80	2.80	10.000	1.18	1.57	1.81
38.000	1.47	1.36	1.31	1.08	1.78	2.80	300.080	1.36	1.49	1.65
40.000	1.44	1.31	1.25	1.07	1.78	2.80	375.075	1.39	1.53	1.69
80.000	1.40	1.22	1.13	1.03	1.77	2.61	450.070	1.44	1.61	1.81
130.000	1.43	1.25	1.15	1.08	1.73	2.65	500.000	1.47	1.67	1.87
140.475	1.46	1.29	1.18	1.06	1.74	2.72	525.065	1.50	1.70	1.91
250.450	1.62	1.43	1.32	1.17	1.73	2.58	600.060	1.57	1.78	1.97
360.425	1.78	1.55	1.43	1.22	1.59	2.37	675.055	1.61	1.80	1.97
470.400	1.99	1.76	1.63	1.21	1.50	2.10	750.050	1.61	1.76	1.91
530.000	2.03	1.80	1.69	1.17	1.51	2.14	825.045	1.58	1.70	1.85
580.375	2.16	1.94	1.84	1.26	1.39	1.97	900.040	1.54	1.62	1.74
690.350	2.25	2.08	2.01	1.54	1.33	1.88	975.035	1.51	1.51	1.60
800.325	2.49	2.30	2.20	1.77	1.32	1.71	1000.000	1.50	1.46	1.56
910.300	2.55	2.35	2.27	1.92	1.25	1.49	1050.030	1.47	1.37	1.45
1020.275	2.68	2.52	2.40	2.01	1.22	1.41	1125.025	1.44	1.24	1.31
1030.000	2.80	2.61	2.49	2.04	1.21	1.40	1200.020	1.41	1.13	1.18
1130.250	2.80	2.52	2.40	2.03	1.23	1.31	1275.015	1.39	1.05	1.11
1240.225	2.61	2.43	2.30	2.16	1.24	1.28	1350.010	1.40	1.08	1.10
1350.200	2.72	2.40	2.25	2.43	1.25	1.35	1425.005	1.46	1.19	1.18
1830.000	2.55	2.30	2.12	2.27	1.88	2.04	1500.000	1.59	1.36	1.35

Click Above for Actual Performance Data.



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