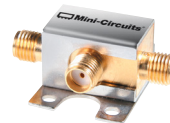


Up Converter Frequency Mixer

Level 7 (LO Power +7 dBm) 1600 to 6000 MHz

ZX05-U63-S+



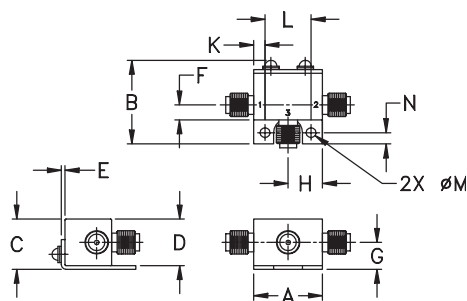
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
IF Power	50mW
Permanent damage may occur if any of these limits are exceeded.	

Coaxial Connections

LO	3
IF (IN)	1
RF (OUT)	2

Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G
.74	.90	.54	.50	.04	.16	.29
18.80	22.86	13.72	12.70	1.02	4.06	7.37

H	J	K	L	M	N	wt
.37	--	.122	.496	.106	.122	grams
9.40	--	3.10	12.60	2.69	3.10	20.0

Features

- up converter mixer
- low conversion loss, 7.0 dB typ.
- high L-R isolation, 40 dB typ.
- rugged construction
- small size
- protected by US patents, 7,027,795 and 6,790,049

Applications

- ISM
- wide band receivers
- blue tooth
- VSAT
- WIFI

CASE STYLE: FL905

Connectors	Model
SMA	ZX05-U63-S+

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

FREQUENCY (MHz)			CONVERSION LOSS* (dB)			LO-IF (IN) ISOLATION (dB)		LO-RF (OUT) ISOLATION (dB)		IP3 at center band (dBm)
IF (IN)	LO	RF (OUT)	Typ.	σ^{**}	Max.	Typ.	Min.	Typ.	Min.	Typ.
1600-2500	3100-5700	3800-6000	7.0	0.3	8.6	17	13	40	28	10

1 dB COMPR. +1.0 dBm typ.

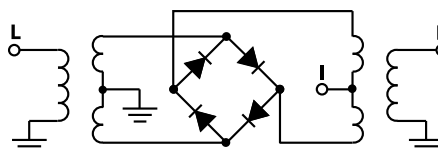
* Conversion Loss at 2400 MHz IF

** σ is a standard deviation

Typical Performance Data

Frequency (MHz)			Conversion Loss (dB)	Isolation L-I (dB)	Isolation L-R (dB)	VSWR RF (OUT) Port (:1)	VSWR LO Port (:1)
IF (IN)	LO	RF (OUT)	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
2400.00	3100.10	5500.10	6.17	16.49	43.23	1.28	2.63
2400.00	3125.10	5525.10	6.03	16.60	41.99	1.31	2.57
2400.00	3150.10	5550.10	6.19	16.53	42.24	1.34	2.54
2400.00	3175.10	5575.10	6.30	16.46	43.35	1.37	2.57
2400.00	3200.10	5600.10	6.30	16.71	42.95	1.43	2.60
2400.00	3225.10	5625.10	6.38	16.80	42.05	1.45	2.55
2400.00	3250.10	5650.10	6.37	16.71	41.76	1.50	2.52
2400.00	3275.10	5675.10	6.61	16.51	42.22	1.52	2.54
2400.00	3300.10	5700.10	6.59	16.57	42.29	1.62	2.58
2400.00	3325.10	5725.10	6.66	16.94	40.24	1.65	2.56
2400.00	3350.10	5750.10	6.89	16.75	40.18	1.70	2.53
2400.00	3375.10	5775.10	6.84	16.30	41.20	1.70	2.53
2400.00	3400.10	5800.10	7.06	16.52	40.60	1.81	2.58
2400.00	3450.10	5850.10	7.15	16.33	39.88	1.86	2.51
2400.00	3475.10	5875.10	7.21	16.25	40.24	1.88	2.51
2400.00	3500.10	5900.10	7.43	16.51	39.03	1.92	2.53
2400.00	3525.10	5925.10	7.41	16.57	39.03	1.98	2.52
2400.00	3550.10	5950.10	7.56	16.26	39.25	1.90	2.52
2400.00	3575.10	5975.10	7.58	16.39	39.63	1.97	2.53
2400.00	3600.10	6000.10	7.53	16.24	39.48	1.89	2.53

Electrical Schematic



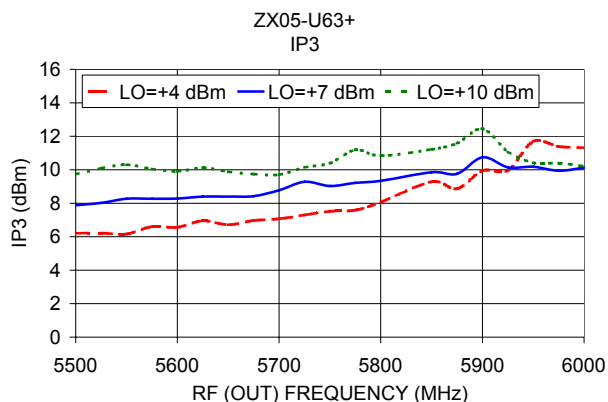
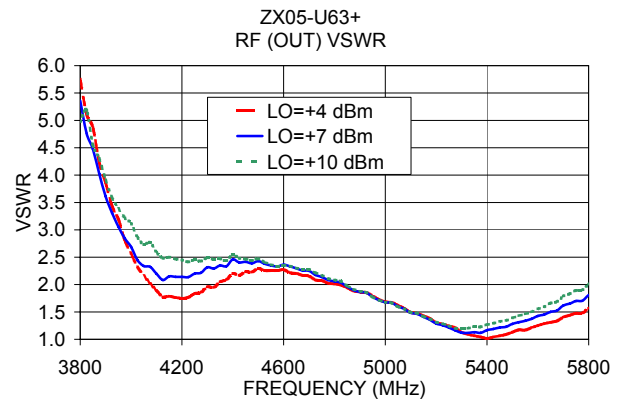
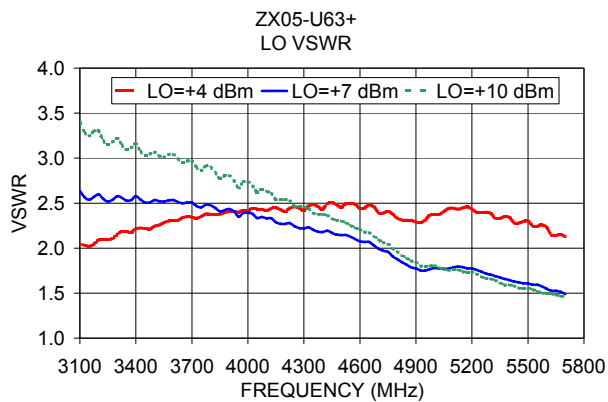
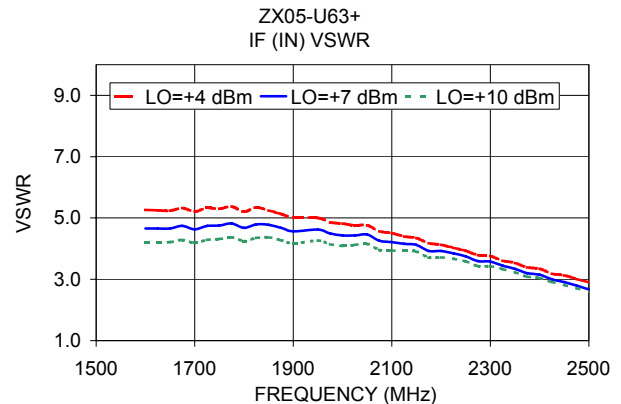
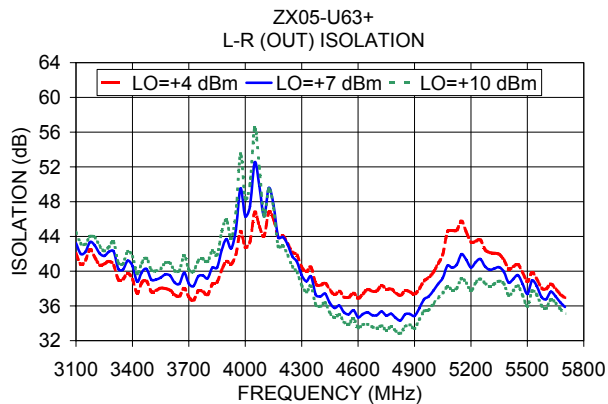
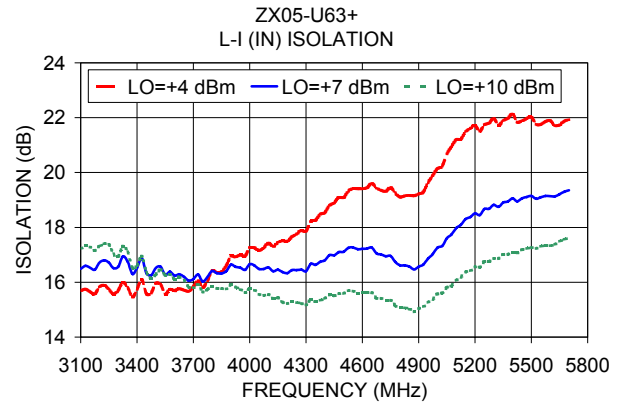
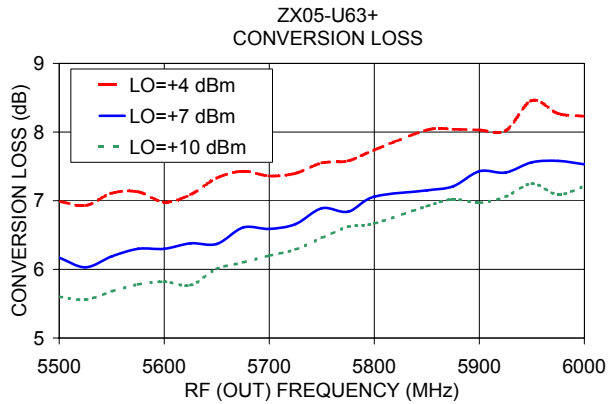
Notes

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Page 1 of 2



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Frequency Mixer (Upconverter)

ZX05-U63-S+

Typical Performance Data

IF INPUT (MHz)	LO INPUT (MHz)	RF OUTPUT (MHz)	CONVERSION LOSS (dB)			LO-IF ISOLATION (dB)			LO-RF ISOLATION (dB)			IP-3 INPUT (dBm)		
			@LO (dBm)			@LO (dBm)			@LO (dBm)			@LO (dBm)		
			+4	+7	+10	+4	+7	+10	+4	+7	+10	+4	+7	+10
2400	3100	5500	6.99	6.17	5.60	15.68	16.49	17.22	42.05	43.23	44.49	6.21	7.88	9.73
2400	3125	5525	6.93	6.03	5.56	15.75	16.60	17.35	40.78	41.99	43.20	6.22	8.02	10.09
2400	3150	5550	7.11	6.19	5.68	15.66	16.53	17.28	41.25	42.24	43.10	6.16	8.27	10.30
2400	3175	5575	7.13	6.30	5.78	15.57	16.46	17.16	42.50	43.35	43.99	6.61	8.27	10.05
2400	3200	5600	6.98	6.30	5.82	15.82	16.71	17.31	41.58	42.95	43.90	6.56	8.28	9.91
2400	3225	5625	7.09	6.38	5.77	15.89	16.80	17.40	40.73	42.05	42.92	6.95	8.40	10.12
2400	3250	5650	7.33	6.37	6.01	15.73	16.71	17.37	40.81	41.76	42.33	6.72	8.40	9.88
2400	3275	5675	7.43	6.61	6.10	15.57	16.51	17.03	41.15	42.22	42.78	6.97	8.42	9.74
2400	3300	5700	7.36	6.59	6.20	15.71	16.57	16.94	40.69	42.29	43.31	7.07	8.78	9.71
2400	3325	5725	7.40	6.66	6.29	15.99	16.94	17.31	39.02	40.24	40.93	7.30	9.28	10.14
2400	3350	5750	7.55	6.89	6.46	15.80	16.75	17.11	39.08	40.18	40.85	7.52	9.03	10.39
2400	3375	5775	7.58	6.84	6.62	15.46	16.30	16.52	39.74	41.20	42.28	7.59	9.22	11.19
2400	3400	5800	7.74	7.06	6.67	15.74	16.52	16.61	39.08	40.60	41.70	8.07	9.34	10.84
2400	3425	5825	7.74	6.98	6.71	16.09	16.88	16.94	37.49	38.78	39.70	8.00	9.73	10.94
2400	3450	5850	8.03	7.15	6.92	15.58	16.33	16.37	38.68	39.88	40.94	9.28	9.85	11.22
2400	3475	5875	8.04	7.21	7.02	15.61	16.25	16.14	38.86	40.24	41.48	8.87	9.76	11.58
2400	3500	5900	8.03	7.43	6.97	15.95	16.51	16.28	37.64	39.03	40.13	9.95	10.75	12.45
2400	3525	5925	8.02	7.41	7.06	15.92	16.57	16.45	37.77	39.03	40.03	9.97	10.15	11.07
2400	3550	5950	8.46	7.56	7.25	15.56	16.26	16.25	38.05	39.25	40.27	11.69	10.18	10.42
2400	3575	5975	8.27	7.58	7.09	15.75	16.39	16.28	38.01	39.63	40.96	11.39	9.94	10.40
2400	3600	6000	8.23	7.53	7.21	15.69	16.24	16.10	37.80	39.48	40.91	11.32	10.13	10.21



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IF/RF MICROWAVE COMPONENTS

REV. OR
 ZX05-U63-S+
 12/17/2018
 Page 1 of 2

Frequency Mixer (Upconverter)

ZX05-U63-S+

Typical Performance Data

IF INPUT (MHz)	LO INPUT (MHz)	IF VSWR (:1)			LO INPUT (MHz)	LO VSWR (:1)			RF OUTPUT (MHz)	RF VSWR (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+4	+7	+10		+4	+7	+10		+4	+7	+10
1600	5700.0	5.27	4.66	4.20	3100	2.04	2.63	3.41	5500	1.13	1.28	1.39
1625	5700.0	5.25	4.66	4.21	3125	2.03	2.57	3.29	5525	1.17	1.31	1.43
1650	5700.0	5.23	4.66	4.22	3150	2.02	2.54	3.25	5550	1.17	1.34	1.46
1675	5700.0	5.33	4.74	4.29	3175	2.04	2.57	3.30	5575	1.21	1.37	1.50
1700	5700.0	5.20	4.63	4.19	3200	2.09	2.60	3.30	5600	1.25	1.43	1.56
1750	5700.0	5.30	4.75	4.32	3225	2.10	2.55	3.19	5625	1.29	1.45	1.59
1800	5700.0	5.20	4.68	4.25	3250	2.10	2.52	3.15	5650	1.31	1.50	1.66
1850	5700.0	5.25	4.78	4.37	3275	2.11	2.54	3.18	5675	1.33	1.52	1.69
1900	5700.0	5.02	4.56	4.17	3300	2.15	2.58	3.22	5700	1.40	1.62	1.79
1950	5700.0	5.00	4.62	4.27	3325	2.18	2.56	3.15	5725	1.44	1.65	1.83
2000	5700.0	4.82	4.43	4.09	3350	2.19	2.53	3.09	5750	1.48	1.70	1.89
2050	5700.0	4.77	4.46	4.16	3375	2.17	2.53	3.12	5775	1.48	1.70	1.90
2100	5700.0	4.51	4.22	3.94	3400	2.22	2.58	3.16	5800	1.57	1.81	2.01
2150	5700.0	4.35	4.12	3.90	3425	2.22	2.54	3.08	5825	1.59	1.84	2.03
2200	5700.0	4.13	3.92	3.71	3450	2.22	2.51	3.02	5850	1.60	1.86	2.07
2250	5700.0	3.93	3.75	3.58	3475	2.21	2.51	3.05	5875	1.61	1.88	2.09
2300	5700.0	3.76	3.58	3.43	3500	2.24	2.53	3.07	5900	1.67	1.92	2.13
2350	5700.0	3.54	3.34	3.22	3525	2.26	2.52	3.02	5925	1.72	1.98	2.22
2400	5700.0	3.35	3.15	3.05	3550	2.28	2.52	3.01	5950	1.64	1.90	2.13
2450	5700.0	3.13	2.91	2.82	3575	2.30	2.53	3.04	5975	1.69	1.97	2.21
2500.1	5700.0	2.90	2.67	2.59	3600	2.30	2.53	3.04	6000	1.64	1.89	2.11



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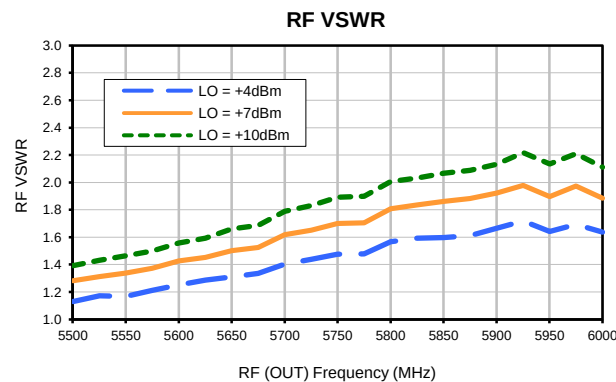
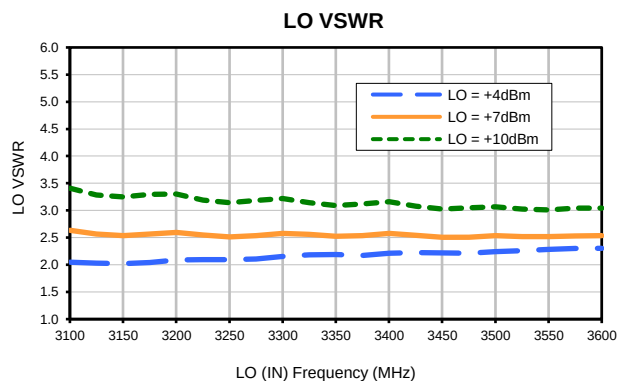
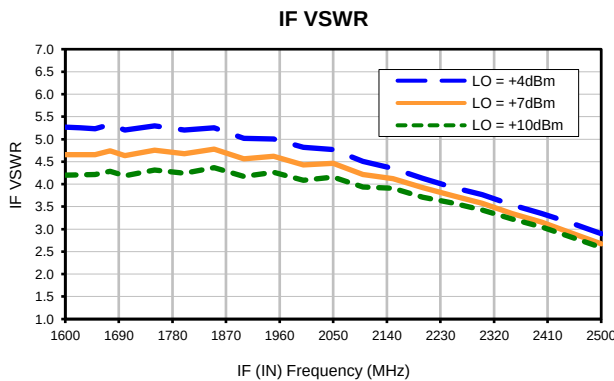
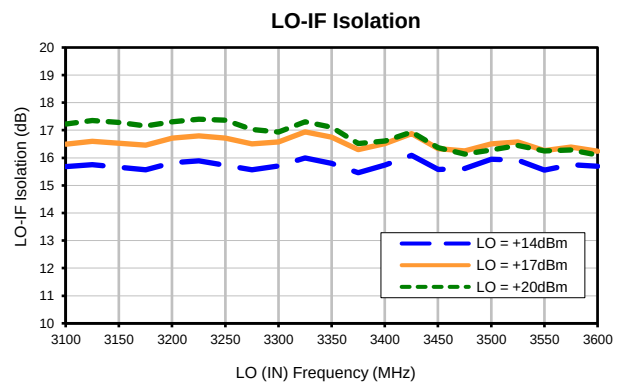
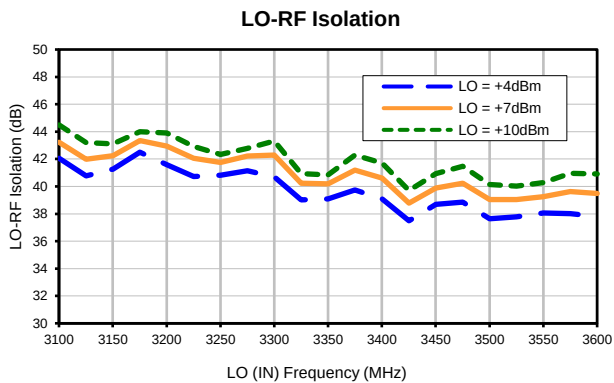
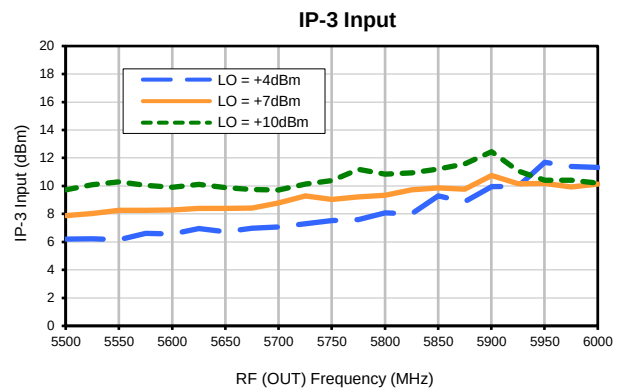
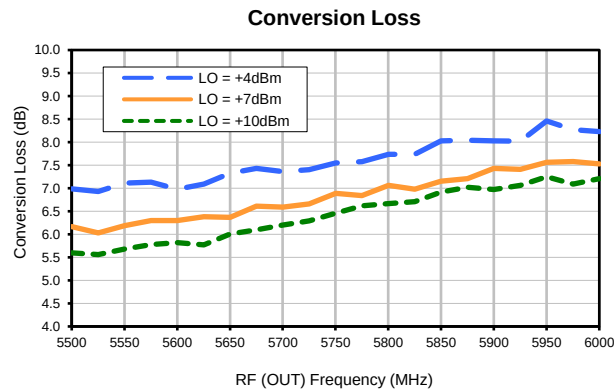


REV. OR
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 Page 2 of 2

Frequency Mixer (Upconverter)

ZX05-U63-S+

Typical Performance Curves

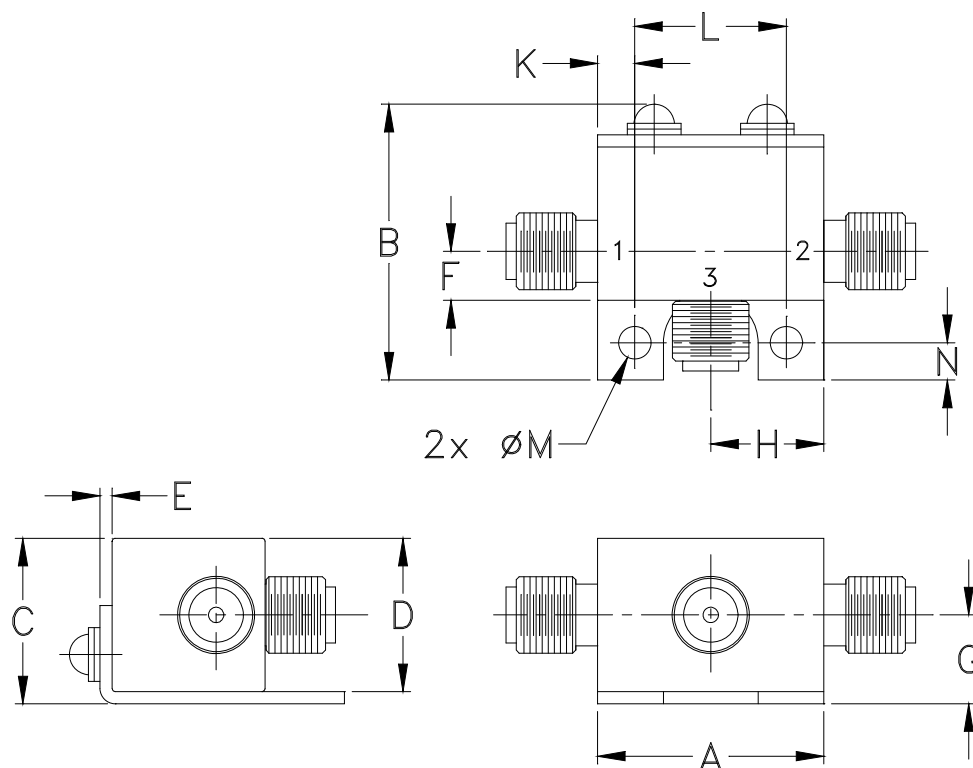


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IF/RF MICROWAVE COMPONENTS

REV. OR
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12/17/2018
Page 1 of 1

Outline Dimensions



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M	N	WT, GRAM
FL905	.74 (18.80)	.90 (22.86)	.54 (13.72)	.50 (12.70)	.04 (1.02)	.16 (4.06)	.29 (7.37)	.37 (9.40)	- -	.122 (3.10)	.496 (12.60)	.106 (2.69)	.122 (3.10)	20.0

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .015$.

Tolerance on hole size and interaxes dimensions to be $\pm .005$.

Notes:

- Case material: Brass.
- Case finish: Nickel plate.



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Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85°C	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I