

# Microwave Technology, Inc.

## 2018-2019 MMIC Selection Guide



- **Wireless**
- **Industrial**
- **Military**
- **Hi-Rel / Space**
- **Test & Measurement**



**MWT**  
*MicroWave Technology*  
An  IXYS Company



## VSAT and Point-to-Point Radio Applications High Power MMIC Amplifiers

Model	Pkg/Chip	Freq (GHz)	DC Power To maintain IM3 (W)	Gain (±dB)	P-1 (dBm)	P-3 (dBm)	IM3 @Po=20dBm /tone (dBc)	OIP3 @Po=20dBm /tone (dBm)	Input/Output Return Loss (dB)
MMA-172135-M5**	5X5 QFN	17-21		27	35		!()	(&')	%&
MMA-212734-M5**	5X5 QFN	21-27		25	34		!(\$		%)#%&
MMA-273336	Chip	27-33	13.2W (6V 2.2A)	22	35.5	36.5	'*	'	%\$
MMA-273336-M5	5X5 QFN	27-33	13.2W (6V 2.2A)	22	35.5	36.5	'*	'	%\$
MMA-273336D-M5	5X5 QFN	27-33	13.2W (6V 2.2A)	22	35.5	36.5	'*	'	%\$
MMA-374030-M5**	5X5 QFN	37-40	10.8W (6V 1.8A)	24	31	32.0	'-†	' , †	%\$

\* AT +18dBm per tone, \*\* Chip version of this model is available. Please contact our sales team for special order.

## VSAT and Point-to-Point Radio Applications High Linearity MMIC Amplifiers

Model	Pkg/Chip	Freq (GHz)	DC Power To maintain IM3 (W)	Gain Typ/Min (dB)	P-1 (dBm)	P-3 (dBm)	IM3 @Po=20dBm /tone (dBc)	OIP3 @Po=20dBm /tone (dBm)	Input/Output Return Loss (dB)
MMA-070936-M5	5X5 QFN	7-8.5	18W (6V 3A)	28.5 / 28.0	34	36	50	45	15
MMA-121633-M5	5X5 QFN	12.5-15.5	8.4W (6V 1.4A)	23.5 / ---	32	34	44	42	10
MMA-374030-M5**	5X5 QFN	37-40	10.8W (6V 1.8A)	24.0	31	32	39*	38*	10
MMA-445933H-02	02	4.4-5.9	---	33.0 / 29.0	33	---	---	45	10 / 7
MMA-445933H-M5	02	4.4-5.9	---	31	33	---	---	45	10 / 7
MMA-495933-Q5**	5X5 QFN	4.9-5.9	---	10.5 / 10.0	33	---	---	46	9.6 / 4.8

\* AT +18dBm per tone, \*\* Chip version of this model is available. Please contact our sales team for special order.

## Driver Amplifiers

Model	Pkg/Chip	Freq (GHz)	DC Power To maintain IM3 (W)	Gain (dB)	P-1 (dBm)	P-3 (dBm)	Gain Flatness (dB)	OIP3 @Po=10dBm /tone (dBm)	Input/Output Return Loss (dB)
MMA-062020	Chip	6-20	0.6W (5V 0.12A)	13.5	18.3	19.5	+/- 1.0	28	10
MMA-062020-C3	3X3 QFN	6-20	0.6W (5V 0.12A)	13.5	18.3	19.5	+/- 1.0	28	10
MMA-174321	Chip	17-73	1.125W (4.5V 0.25A)	20.0	21.0	22.0	+/- 2.5	26*	8
MMA-174321-M4	4X4 QFN	17-43	1.125W (4.5V 0.25A)	20.0	21.0	22.0	+/- 2.5	26	8

## Traveling Wave Amplifiers

Model	Pkg/Chip	Freq (GHz)	DC Power To maintain IM3 (W)	Gain (dB)	P-1 (dBm)	P-3 (dBm)	Gain Flatness (dB)	OIP3 @Po=10dBm /tone (dBm)	Input/Output Return Loss (dB)
MMA-005022B/C/D	Chip	30KHz-50	1.4W (7V 0.2A)	15.5	22	25	+/- 1.0	37	10
MMA-005022-M4	4X4 QFN	30KHz-50	1.4W (7V 0.2A)	15.5	22	25	+/- 1.0	37	10
MMA-012030	Chip	0.1-20	6W (12V 0.5A)	12.5	27	29	+/- 0.5	37	10
MMA-012727	Chip	0.1-26.5	3.5W (10V 0.35A)	12.5	26	27	+/- 0.5	35	11
MMA-012727-M4	4X4 QFN	0.1-26.5	3.5W (10V 0.35A)	12.5	26	27	+/- 0.5	35	11

## High Linearity Broadband Driver Amplifiers

Model	Pkg/ Chip	Freq (GHz)	Linear Gain Typ/Min (dB)	Gain Flatness Typ/Max (±dB)	Input RL Typ (dB)	Output RL Typ (dB)	NF Typ (dB)	Pout @-1dB Typ (dBm)	OIP3 Typ (dBm)	Vdd (V)	DC Current Typ/Max (mA)
MMA-011015	Chip	1-10	15 / ---	2.5 / ---	12	15	4.5	16	---	6.0	75 / ---
MMA-011015-C5	5X5 QFN	1-10	15 / ---	2.5 / ---	10	10	4.5	16	---	6.0	75 / ---
MMA-053223	Chip	.5-3.2	12 / ---	1.5	10	10	3.5	24	42	6.0	120 / 200
MMA-053223-M4	4X4 QFN	.5-3.2	12 / ---	1.5	10	10	3.5	24	42	6.0	120 / 200
MMA-054025	Chip	.5-4	11 / ---	1.0	10	10	3.5	25	44	7.5	--- / 350
MMA-054025-87	87	.5-4	11 / ---	1.0	10	10	3.5	25	44	7.5	--- / 350
MMA-054025-M4	4X4 QFN	.5-4	11 / ---	1.0	10	10	3.5	25	44	7.5	--- / 350
MMA-053026-82	82	.9-2	--- / 11	--- / 2.0	10	8	3.0	25 min	44	8.0	220 / 300

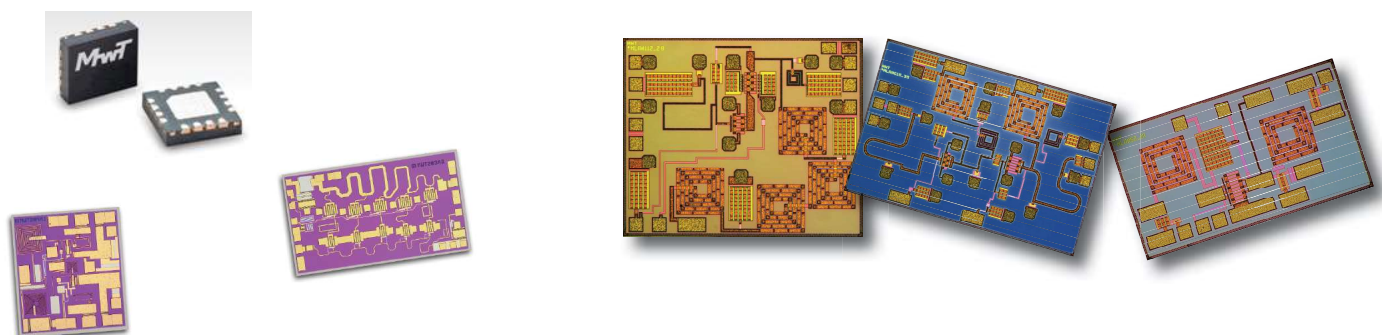
## Broadband Low Noise Amplifiers

Model	Pkg/ Chip	Freq (GHz)	Linear Gain Typ (dB)	Gain Flatness Typ (±dB)	Input RL Typ (dB)	Output RL Typ (dB)	NF Typ (dB)	Pout @-1dB Typ (dBm)	Vdd (V)	DC Current Typ (mA)
MLA-0122B	Chip	1-10	17.0	1.0	14	11	1.6	16	5.0	55
MLA-0122B-C4	4X4 QFN	1-10	17.0	1.0	14	11	1.6	16	5.0	55
MLA-0122B-H7	H7	1-12	16.0	1.0	10@1-8GHz	13@1-8GHz	1.9@6GHz	16@6GHz	5.0	55
MLA-0522A	Chip	.2-1	17.0	0.5	12	20	1.0	16	3.0	70
	Chip	1-2	16.0	1.3	14	13	1.5	15	3.0	70
MLA-0522A-87	87	.2-1	17.5	1.0	10	11	1.0	15	3.0	65
	87	1-2	15.0	1.3	13	12	1.2	15	3.0	65
MLA-06183A	Chip	5-18	19.0	2.0	10	11	3.0	20	4.5	135
MLA-06183A-M4	4X4 QFN	5-18	19.0	2.0	10	11	3.0	20	4.5	135

## High Linearity Driver Amplifiers for WiMax/WLAN

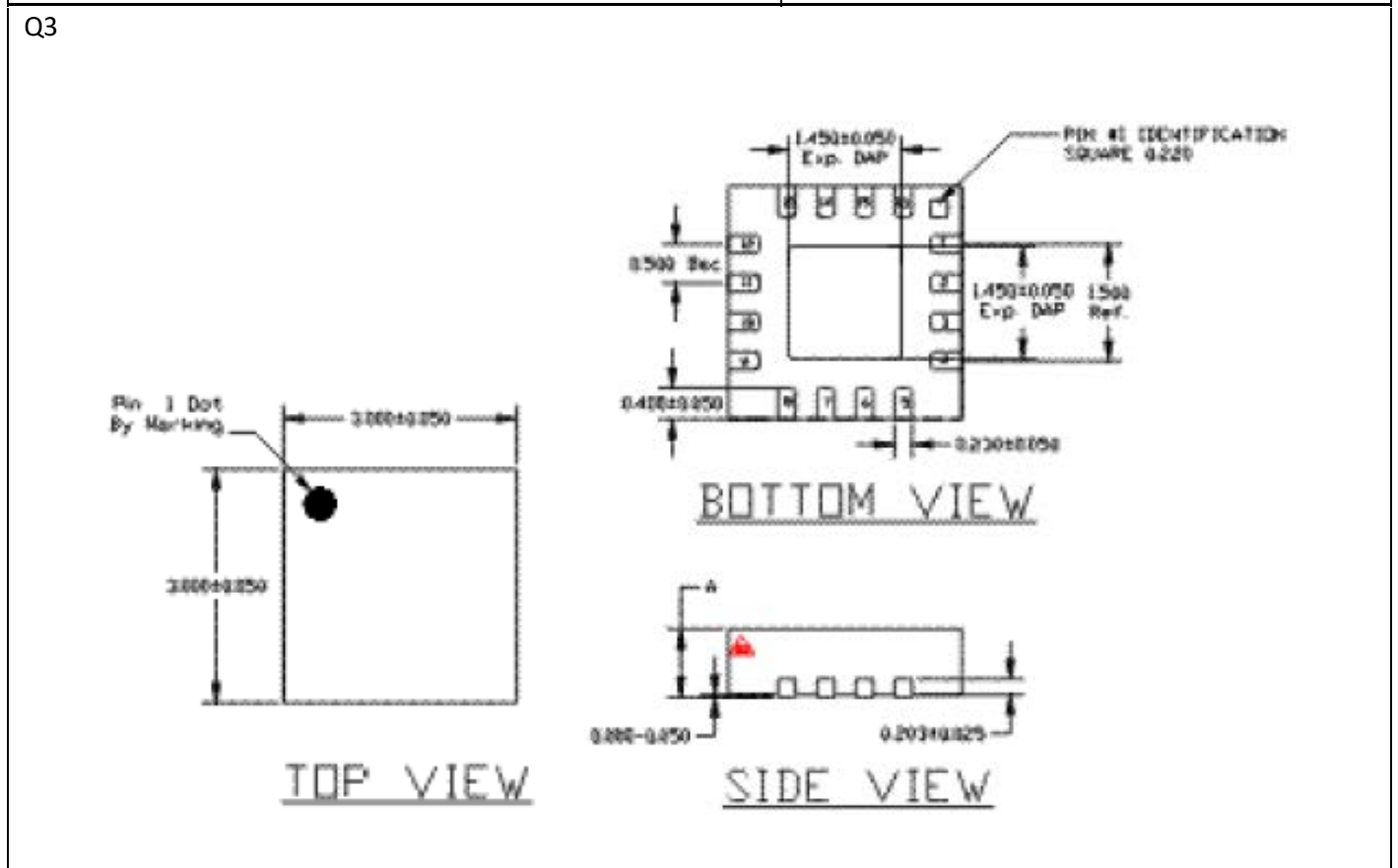
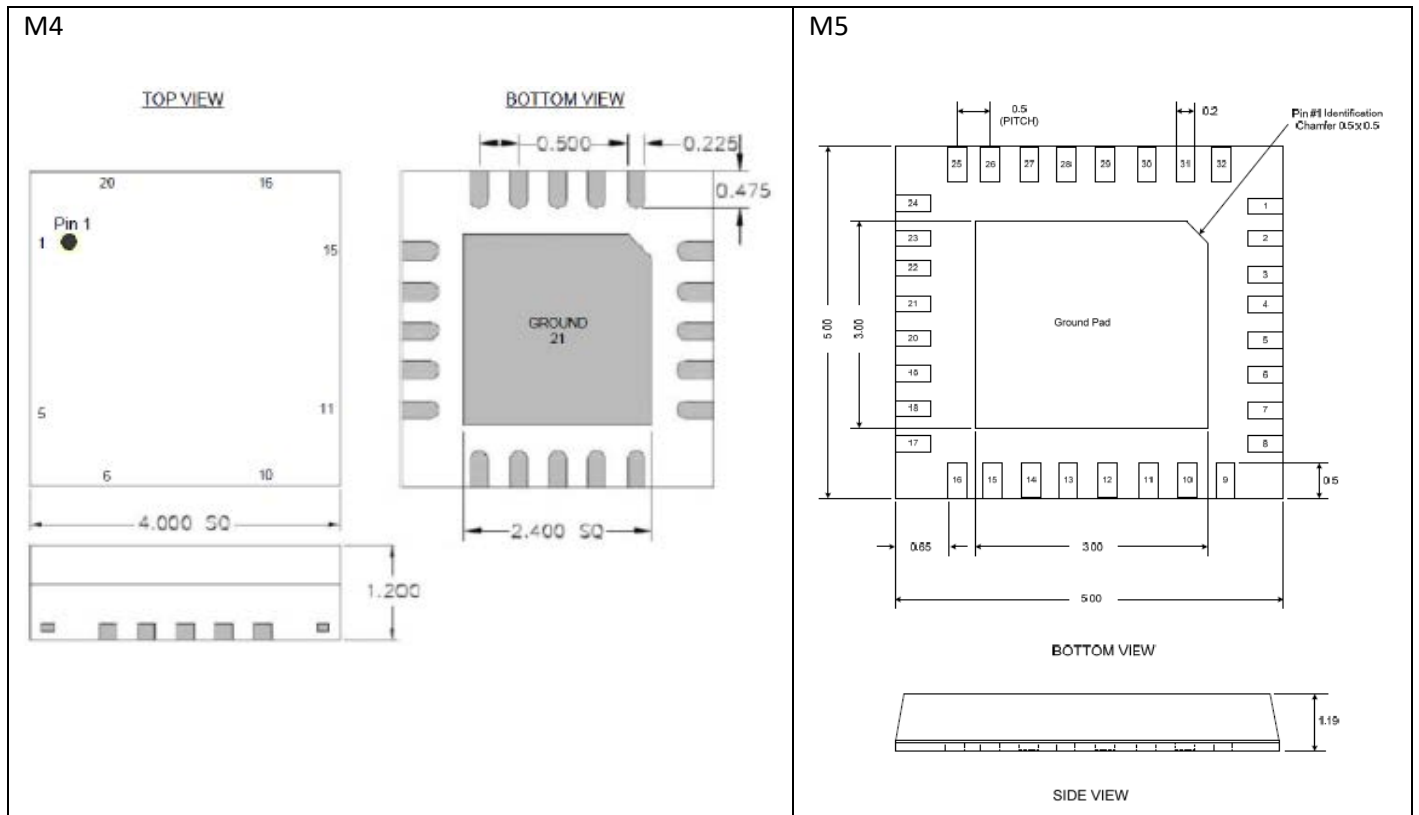
Model	Pkg/ Chip	Freq (GHz)	Linear Gain Typ/Min (dB)	Gain Flatness Typ/Max (±dB)	Input RL Typ (dB)	Output RL Typ (dB)	NF Typ (dB)	Pout @-1dB Typ (dBm)	OIP3 Typ (dBm)	Vdd (V)	DC Current Typ/Max (mA)
MMA-020624	Chip	2-4	17 / 15	1 / 1.5	12	12	3.0	25	40	8.0	250 / 300
	Chip	2-6	17 / 15	1 / 1.5	11	10	3.0	25	40	8.0	250 / 300
MMA-020624-M4	4X4 QFN	2-4	17 / 15	1 / 1.5	12	12	3.0	25	40	8.0	250 / 300
	4X4 QFN	2-6	17 / 15	1 / 1.5	11	10	3.0	25	40	8.0	250 / 300
MMA-495930-Q4**	4X4 QFN	4.9-5.9	20 / 18	1 / 1.2	8	8	---	30	45	7.5	450 / 500
MMA-495933-Q5**	4X4 QFN	4.9-5.9	10.5 / 10	---	9.6	4.8	---	33	46	7.5	600 / ---

\*\* Chip version of this model is available. Please contact our sales team for special order.



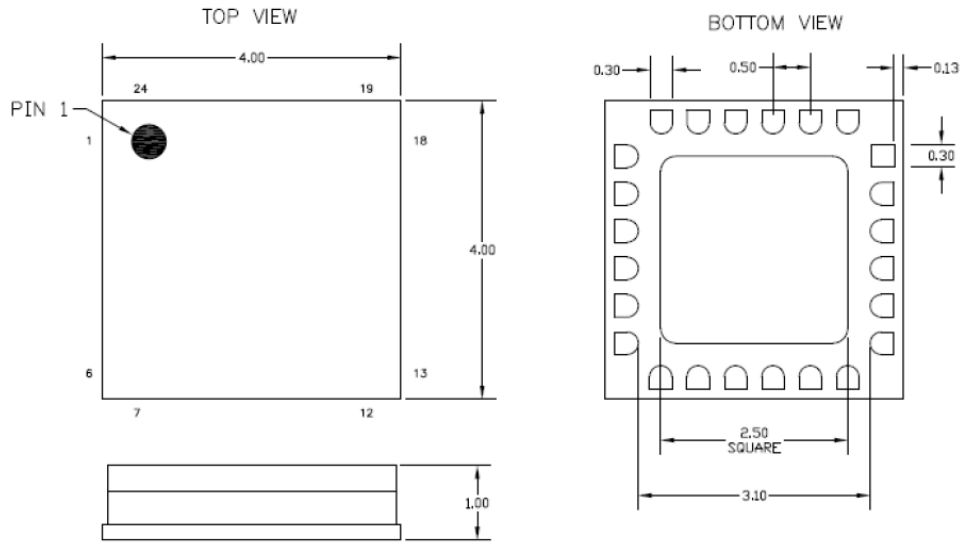
# MwT Package Outline Drawings

## QFN Plastic Non-Hermetic Packages

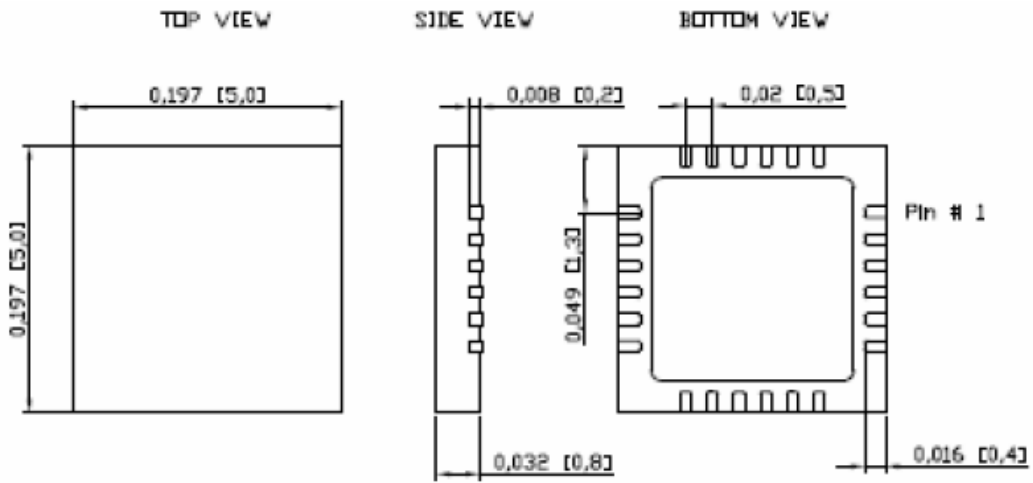


QFN Plastic Non-Hermetic Packages, *cont.*

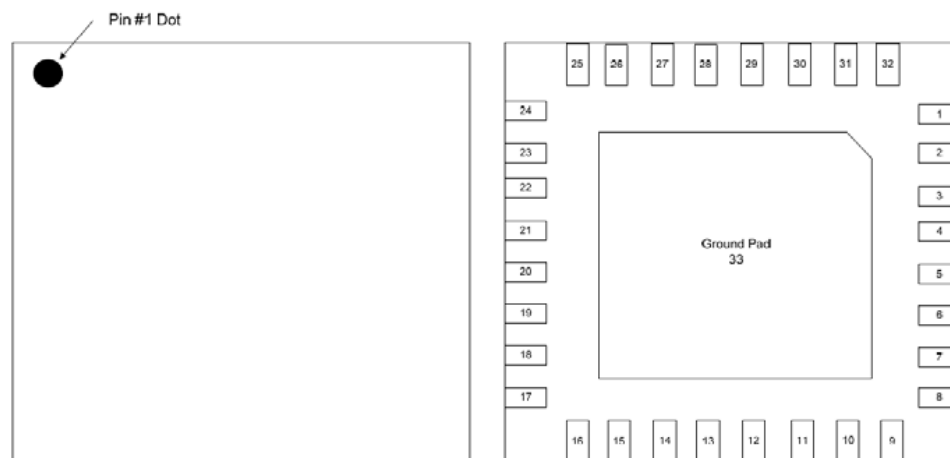
Q4



Q5

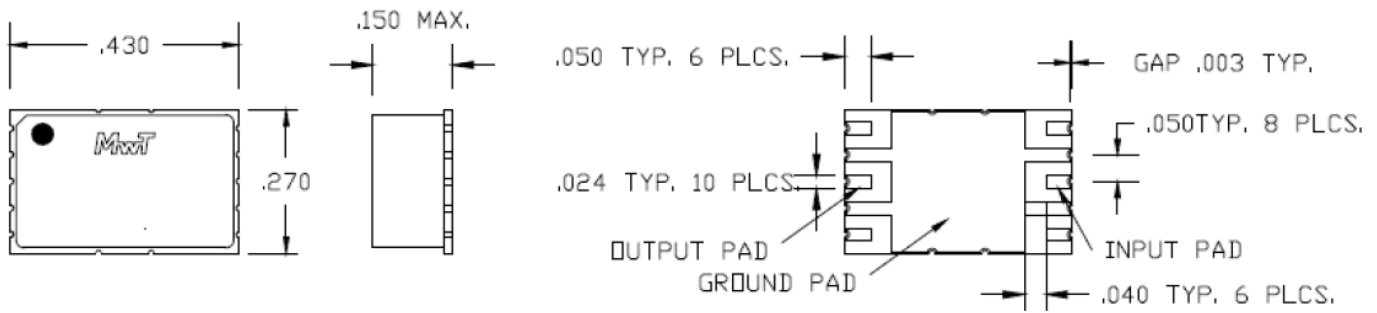


R5

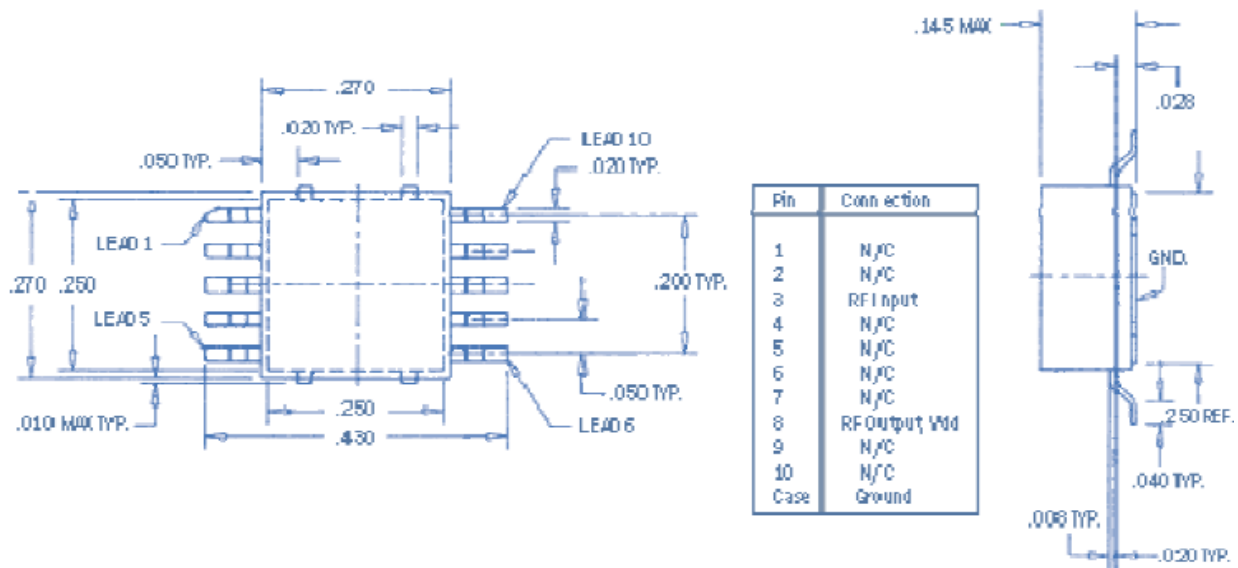


# SMT Ceramic Non-Hermetic Packages

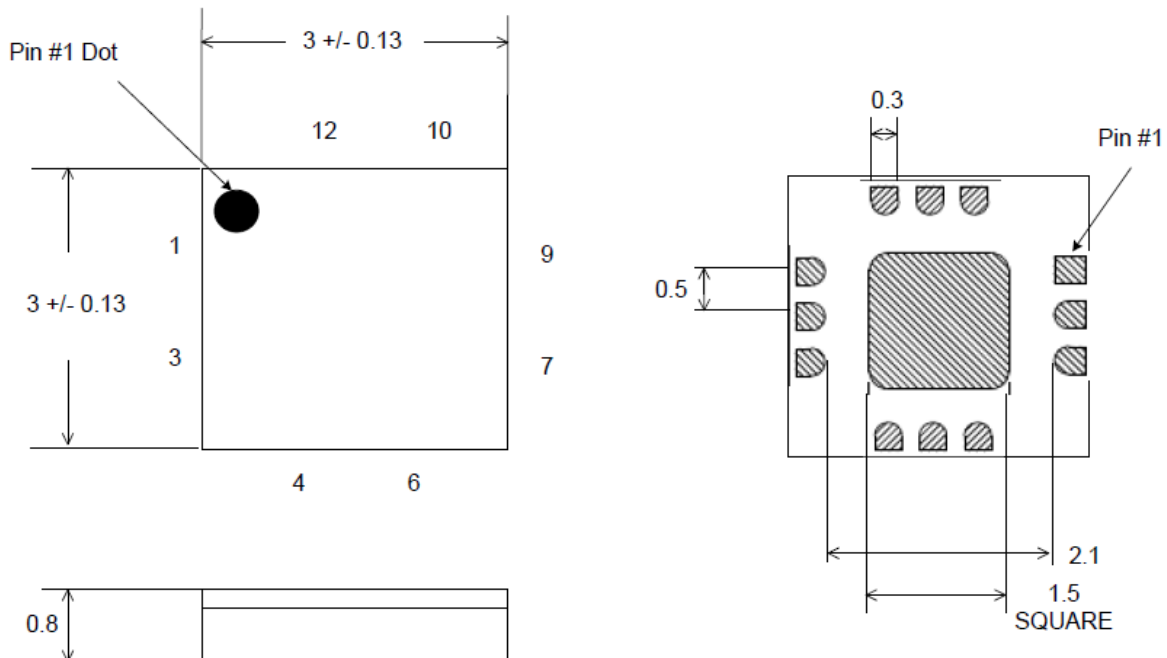
02



82



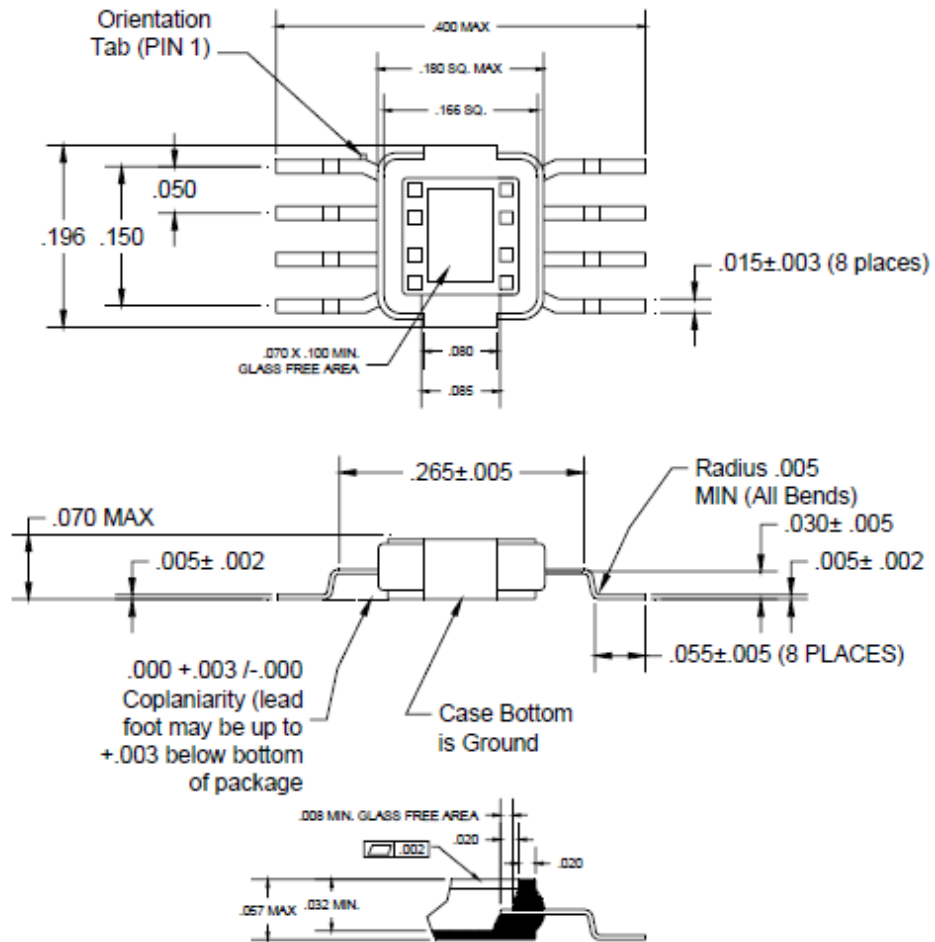
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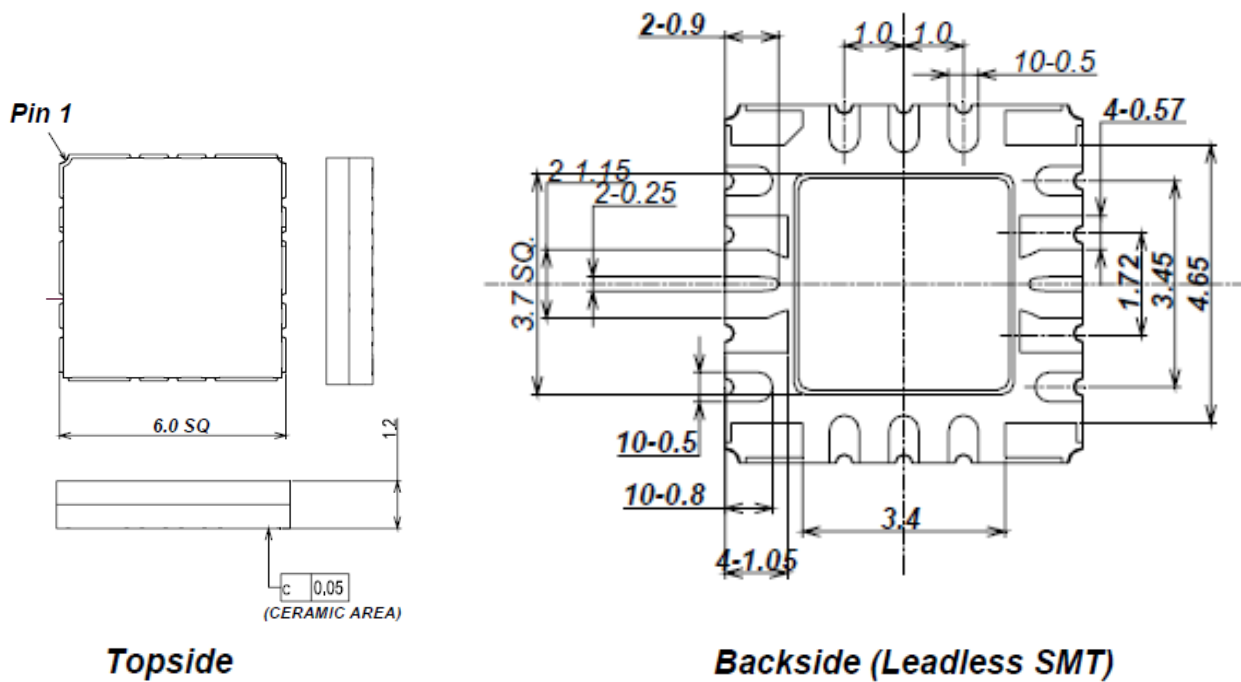


# SMT Hermetic Packages

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H6





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