- **14.5 dB Typical Gain at 2.4 GHz**
- **5V to 10V Operation**

Description

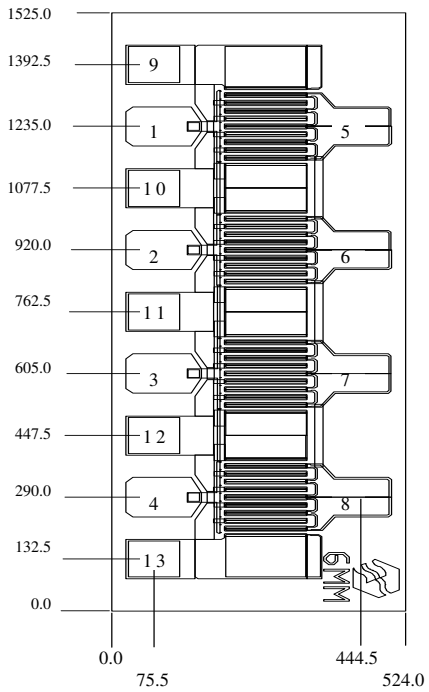
The HWL34NC is a power GaAs FET designed for various L-band & S-band applications.

Absolute Maximum Ratings

V_{DS}	Drain to Source Voltage	+15V
V_{GS}	Gate to Source Voltage	-5V
I_D	Drain Current	I_{DSS}
I_G	Gate Current	6mA
T_{CH}	Channel Temperature	175°C
T_{STG}	Storage Temperature	-65 to +175°C
P_T^*	Power Dissipation	12W

* mounted on an infinite heat sink

Outline Dimensions



Units: μm
Thickness: 100 ±5
Chip size ±50
Bond Pads 1-4 (Gate): 100 x 100
Bond Pads 5-8 (Drain): 100 x 100
Bond Pads 9-13(Source): 100 x 100

Electrical Specifications (TA=25°C) f = 2.4 GHz for a

Symbol	Parameters & Conditions	Ur			
I_{DSS}	Saturated Current at V_{DS}=3V, V_{GS}=0V	mA	900	1200	1600
V_P	Pinch-off Voltage at V_{DS}=3V, I_D=60mA	V	-3.5	-2.0	-1.5
gm	Transconductance at V_{DS}=3V, I_D=600mA	mS	-	700	-
P_{1dB}	Power Output at Test Points V_{DS}=10V, I_D=0.5 I_{DSS}	dBm	33	34	-
G_{1dB}	Gain at 1dB Compression Point V_{DS}=10V, I_D=0.5 I_{DSS}	dB	12.5	13.5	-
PAE	Power-Added Efficiency (P_{OUT} = P_{1dB}) V_{DS}=10V, I_D=0.5 I_{DSS}	%	25	30	-

Small Signal Common Source Scattering Parameters

S-MAGN AND ANGLES

V_{DS}=10V, I_{DS}=0.5I_{DSS}

(GHz)	IS11I	∠ANG	IS21I	∠ANG	IS12I	∠ANG	IS22I	∠ANG
0.50	0.887	-111.36	11.200	114.93	0.018	59.27	0.263	-158.55
0.60	0.881	-122.10	9.816	108.73	0.019	52.79	0.272	-159.45
0.70	0.876	-130.68	8.678	103.44	0.021	51.73	0.280	-161.03
0.80	0.872	-137.70	7.769	98.93	0.023	52.71	0.285	-162.06
0.90	0.870	-143.48	7.023	95.01	0.024	51.99	0.290	-162.88
1.00	0.865	-148.23	6.399	91.61	0.026	54.57	0.293	-163.34
1.10	0.863	-152.62	5.858	88.33	0.027	52.90	0.297	-164.20
1.20	0.864	-156.37	5.402	85.47	0.028	55.60	0.300	-163.99
1.30	0.862	-159.54	4.996	82.67	0.030	53.47	0.303	-165.14
1.40	0.862	-162.41	4.665	79.99	0.031	54.50	0.308	-166.30
1.50	0.863	-165.14	4.362	77.38	0.032	54.73	0.313	-167.97
1.60	0.864	-167.44	4.090	75.05	0.034	55.23	0.321	-168.45
1.70	0.862	-169.77	3.862	72.73	0.036	54.29	0.324	-168.88
1.80	0.863	-172.16	3.645	70.35	0.037	55.08	0.329	-169.54
1.90	0.863	-174.21	3.470	68.23	0.039	55.54	0.332	-169.87
2.00	0.859	-176.36	3.296	66.23	0.040	55.48	0.340	-170.42
2.10	0.858	-178.17	3.136	64.02	0.041	55.20	0.347	-170.89
2.20	0.857	-179.78	3.011	61.98	0.044	55.76	0.347	-171.41
2.30	0.853	178.67	2.881	60.03	0.045	56.12	0.347	-172.09
2.40	0.852	177.35	2.766	58.02	0.047	55.98	0.348	-172.94
2.50	0.851	176.11	2.659	56.19	0.049	56.99	0.356	-173.65
2.60	0.852	174.73	2.545	54.29	0.051	56.37	0.361	-173.94
2.70	0.853	173.43	2.452	52.38	0.052	55.14	0.365	-175.88
2.80	0.855	172.03	2.354	50.70	0.053	55.16	0.375	-175.47
2.90	0.856	170.43	2.264	48.96	0.056	55.28	0.383	-175.35
3.00	0.855	168.76	2.185	47.30	0.057	54.91	0.395	-173.39
3.10	0.857	167.10	2.109	45.34	0.059	54.46	0.397	-174.42
3.20	0.856	165.34	2.042	43.52	0.060	54.84	0.403	-173.91
3.30	0.855	163.66	1.977	41.64	0.062	54.03	0.407	-175.37
3.40	0.851	162.09	1.916	39.60	0.064	53.34	0.411	-175.48
3.50	0.851	160.70	1.869	37.63	0.066	53.24	0.419	-177.03
3.60	0.847	159.50	1.813	35.90	0.068	51.96	0.428	-178.65
3.70	0.846	158.68	1.761	34.34	0.071	51.81	0.437	-179.72
3.80	0.845	157.96	1.713	32.69	0.072	51.37	0.445	179.17
3.90	0.844	157.35	1.660	31.47	0.073	51.12	0.458	178.27
4.00	0.847	156.81	1.604	30.03	0.075	50.76	0.467	177.78

Bonding Manner

Gate, drain pad: 1 wire on each pad
Source pad: 1 wires on each pad