

Features

- Low Cost GaAs Power FET
- Class A or Class AB Operation
- 18 dB Typical Gain at 2.4 GHz
- 5V to 10V Operation

Description

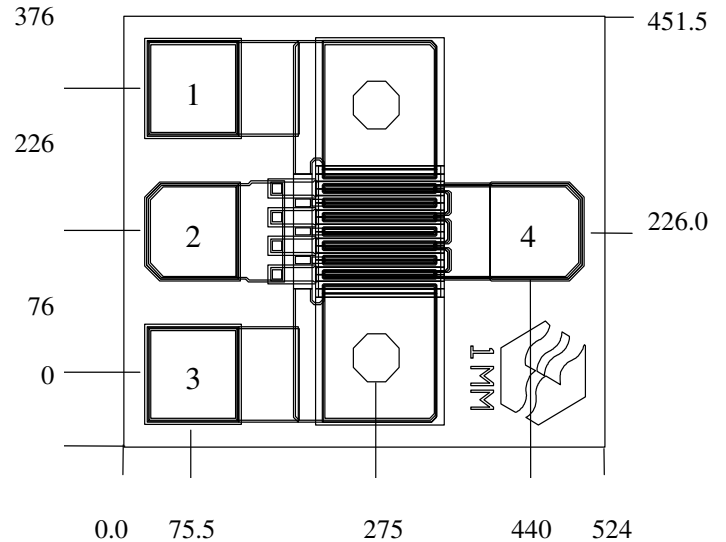
The HWL26YC is a medium power GaAs FET designed for various L-band & S-band applications.

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	1mA
T_{CH}	Channel Temperature	175°C
T_{STG}	Storage Temperature	-65 to +175°C
P_T^*	Power Dissipation	1.7W

* mounted on an infinite heat sink

Outline Dimensions



Units: μm

Thickness: 50 ± 5

Chip size ± 50

Bond Pad 1, 3 (Source): 100×100

Bond Pad 2 (Gate): 100×100

Bond Pad 4 (Drain): 100×100

Electrical Specifications ($T_A=25^\circ\text{C}$) $f = 2.4$ GHz for all RF Tests

Symbol	Parameters & Conditions	Units	Min.	Typ.	Max.
I_{DSS}	Saturated Current at $V_{DS}=3\text{V}$, $V_{GS}=0\text{V}$	mA	150	200	280
V_P	Pinch-off Voltage at $V_{DS}=3\text{V}$, $I_D=10\text{mA}$	V	-3.5	-2.0	-1.5
g_m	Transconductance at $V_{DS}=3\text{V}$, $I_D=100\text{mA}$	mS	-	120	-
P_{1dB}	Power Output at Test Points $V_{DS}=10\text{V}$, $I_D=0.5 I_{DSS}$	dBm	25	26	-
G_{1dB}	Gain at 1dB Compression Point $V_{DS}=10\text{V}$, $I_D=0.5 I_{DSS}$	dB	16	17	-
PAE	Power-Added Efficiency ($P_{OUT} = P_{1dB}$) $V_{DS}=10\text{V}$, $I_D=0.5 I_{DSS}$	%	35	42	-

Small Signal Common Source Scattering Parameters
S-MAGN AND ANGLES
VDS=9V, IDS=0.5I_{DSS}

(GHz)	IS11I	∠ANG	IS21I	∠ANG	IS12I	∠ANG	IS22I	∠ANG
0.50	0.994	-22.26	6.048	164.50	0.008	74.22	0.676	-6.59
0.60	0.994	-24.49	5.904	161.84	0.009	75.82	0.670	-9.32
0.70	0.999	-30.31	5.953	158.76	0.012	75.97	0.652	-9.24
0.80	0.975	-35.18	5.843	155.58	0.012	72.36	0.658	-9.09
0.90	0.974	-38.65	5.805	153.18	0.014	68.69	0.662	-10.89
1.00	0.971	-42.19	5.778	150.54	0.016	69.80	0.657	-12.67
1.10	0.966	-47.41	5.635	147.98	0.016	67.06	0.650	-11.25
1.20	0.965	-51.99	5.583	144.84	0.018	63.89	0.635	-12.30
1.30	0.952	-55.29	5.480	142.64	0.019	60.46	0.643	-13.15
1.40	0.960	-59.25	5.395	140.07	0.020	60.68	0.629	-14.02
1.50	0.940	-62.73	5.305	137.39	0.021	59.88	0.636	-14.96
1.60	0.945	-66.79	5.214	135.03	0.022	59.10	0.623	-15.66
1.70	0.933	-69.79	5.106	132.75	0.024	54.90	0.627	-16.67
1.80	0.926	-74.40	5.018	130.23	0.023	54.44	0.624	-16.47
1.90	0.923	-77.56	4.968	128.04	0.025	52.68	0.624	-17.96
2.00	0.922	-80.63	4.853	125.83	0.026	52.20	0.615	-18.58
2.10	0.923	-84.47	4.748	123.55	0.027	49.18	0.606	-18.56
2.20	0.918	-87.53	4.669	121.49	0.027	49.90	0.604	-19.84
2.30	0.913	-90.61	4.575	119.42	0.028	48.65	0.601	-20.18
2.40	0.909	-93.75	4.478	117.36	0.029	47.36	0.599	-20.97
2.50	0.904	-96.62	4.387	115.54	0.030	45.41	0.595	-21.42
2.60	0.899	-99.71	4.303	113.57	0.030	44.54	0.597	-22.14
2.70	0.895	-102.26	4.199	111.68	0.030	44.27	0.582	-22.82
2.80	0.894	-104.90	4.118	109.75	0.030	41.72	0.583	-23.87
2.90	0.893	-107.51	4.046	108.05	0.031	41.41	0.577	-24.64
3.00	0.888	-109.93	3.953	106.36	0.031	40.01	0.581	-24.59
3.10	0.886	-112.39	3.857	104.59	0.031	40.14	0.570	-25.33
3.20	0.884	-114.54	3.778	102.93	0.031	39.58	0.571	-26.41
3.30	0.878	-116.84	3.715	101.39	0.031	39.64	0.570	-26.75
3.40	0.879	-119.03	3.649	99.78	0.032	36.82	0.567	-27.72
3.50	0.875	-121.05	3.583	98.20	0.032	36.18	0.570	-28.31
3.60	0.872	-123.18	3.491	96.71	0.032	35.49	0.564	-28.57
3.70	0.872	-125.31	3.426	95.12	0.032	34.37	0.558	-29.61
3.80	0.872	-127.10	3.369	93.71	0.033	35.56	0.557	-30.27
3.90	0.870	-129.01	3.306	92.20	0.033	34.61	0.555	-31.37
4.00	0.868	-130.87	3.247	90.73	0.033	33.36	0.554	-31.74

Bonding Manner

Gate, drain pad: 1 wire on each pad
 Source pad: 1 wires on each side
 (Not necessary, subject to user's need)