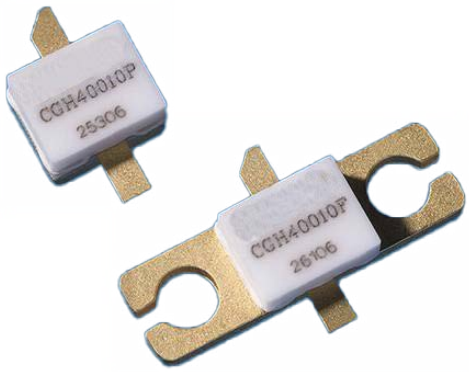
CGH40010

10 W, DC - 6 GHz, RF Power GaN HEMT



Package Type: 440166 & 440196
PNs: CGH40010F & CGH40010P

Description

The CGH40010 is an unmatched, gallium nitride (GaN) high electron mobility transistor (HEMT). The CGH40010, operating from a 28 volt rail, offers a general purpose, broadband solution to a variety of RF and microwave applications. GaN HEMTs offer high efficiency, high gain and wide bandwidth capabilities making the CGH40010 ideal for linear and compressed amplifier circuits. The transistor is available in both screw-down, flange and solder-down, pill packages.

Features

- Up to 6 GHz Operation
- 16 dB Small Signal Gain at 2.0 GHz
- 14 dB Small Signal Gain at 4.0 GHz
- 13 W typical P_{SAT}
- 65 % Efficiency at P_{SAT}
- 28 V Operation

Applications

- 2-Way Private Radio
- Broadband Amplifiers
- Cellular Infrastructure
- Test Instrumentation
- Class A, AB, Linear amplifiers suitable for OFDM, W-CDMA, EDGE, CDMA waveforms

Large Signal Models Available for ADS and MWO

RoHS compliant

Rev. 4.4, 2022-10-28

Absolute Maximum Ratings (not simultaneous) at 25°C Case Temperature

Parameter	Symbol	Rating	Units	Conditions
Drain-Source Voltage	V_{DSS}	120	V	25°C
Gate-to-Source Voltage	V_{GS}	-10, +2		
Storage Temperature	T_{STG}	-65, +150	°C	
Operating Junction Temperature	T_J	225		
Maximum Forward Gate Current	I_{GMAX}	4.0	mA	25°C
Maximum Drain Current[1]	I_{DMAX}	1.5	A	
Soldering Temperature[2]	T_S	245	°C	
Screw Torque	τ	40	in-oz	
Thermal Resistance, Junction to Case[3]	$R_{\theta JC}$	8.0	°C/W	85°C
Case Operating Temperature[3,4]	T_C	-40, +150	°C	

Notes:
[1] Current limit for long term, reliable operation
[2] Refer to the Application Note on soldering
[3] Measured for the CGH40010F at P_{DISS} = 14 W.
[4] See also, the Power Dissipation De-rating Curve on Page 7.

Electrical Characteristics (T_C = 25°C)

Characteristics	Symbol	Min.	Typ.	Max.	Units	Conditions
DC Characteristics[1]						
Gate Threshold Voltage	$V_{GS(th)}$	-3.8	-3.0	-2.3	V_{DC}	V_{DS} = 10 V, I_D = 3.6 mA
Gate Quiescent Voltage	$V_{GS(Q)}$	–	-2.7	–		V_{DS} = 28 V, I_D = 200 mA
Saturated Drain Current	I_{DS}	2.9	3.5	–	A	V_{DS} = 6.0 V, V_{GS} = 2.0 V
Drain-Source Breakdown Voltage	V_{BR}	84	–	–	V_{DC}	V_{GS} = -8 V, I_D = 3.6 mA
RF Characteristics[2] (T_C = 25°C, F_0 = 3.7 GHz unless otherwise noted)						
Small Signal Gain	G_{SS}	12.5	14.5	–	dB	V_{DD} = 28 V, I_{DQ} = 200 mA
Power Output[3]	P_{SAT}	10	12.5	–	W	
Drain Efficiency[4]	η	55	65	–	%	V_{DD} = 28 V, I_{DQ} = 200 mA, P_{SAT}
Output Mismatch Stress	VSWR	–	–	10:1	Ψ	No damage at all phase angles, V_{DD} = 28 V, I_{DQ} = 200 mA, P_{OUT} = 10 W CW
Dynamic Characteristics						
Input Capacitance	C_{GS}	–	4.5	–	pF	V_{DS} = 28 V, V_{GS} = -8 V, f = 1 MHz
Output Capacitance	C_{DS}	–	1.3	–		
Feedback Capacitance	C_{GD}	–	0.2	–		

Notes:
[1] Measured on wafer prior to packaging.
[2] Measured in CGH40010-AMP.
[3] P_{SAT} is defined as I_G = 0.36 mA.
[4] Drain Efficiency = P_{OUT} / P_{DC}

Typical Performance

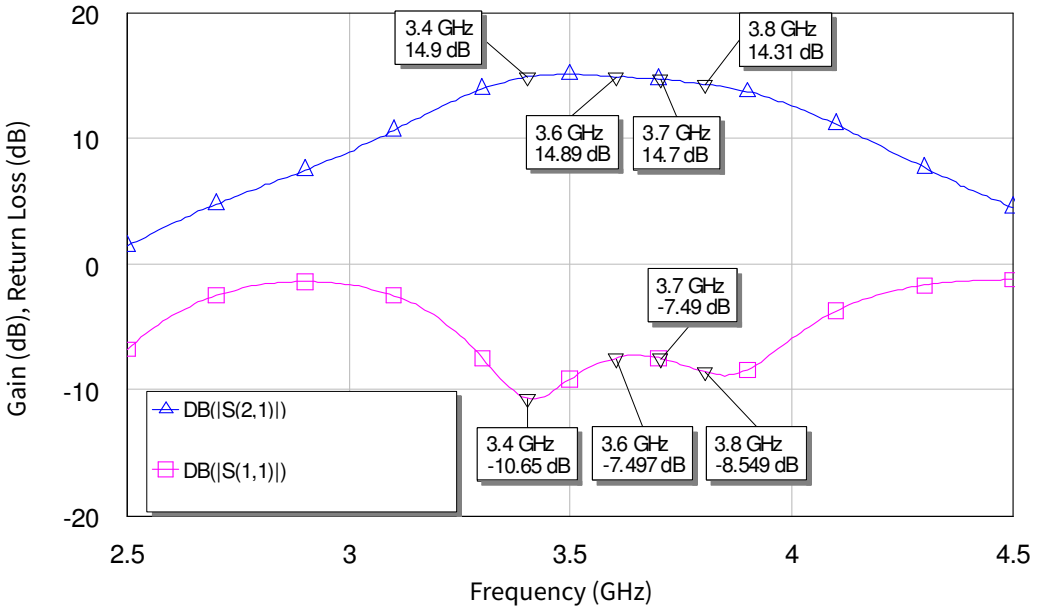


Figure 1. Small Signal Gain and Return Loss vs Frequency of the CGH40010 in the CGH40010-AMP

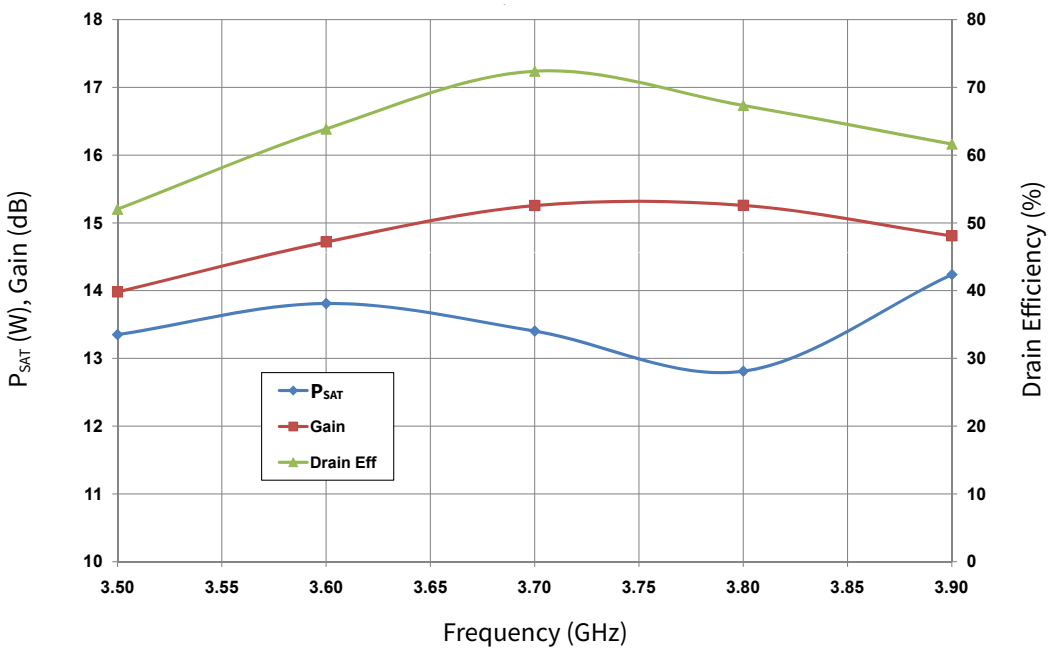


Figure 2. P_{SAT}, Gain, and Drain Efficiency vs Frequency of the CGH40010F in the CGH40010-AMP
V_{DD} = 28 V, I_{DQ} = 200 mA

Typical Performance

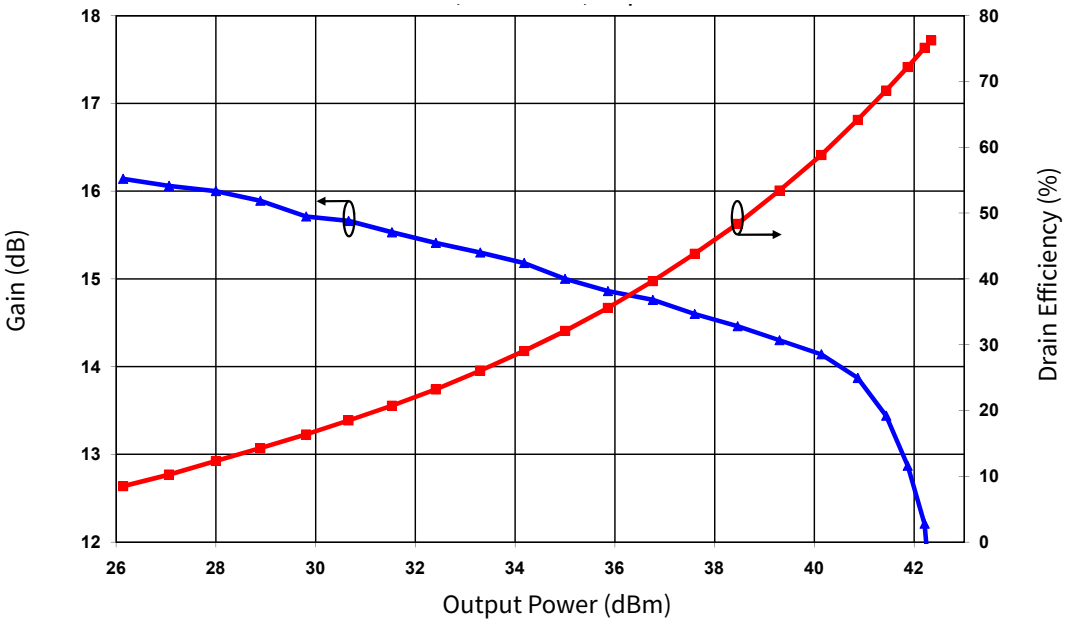


Figure 3. Swept CW Data of CGH40010F vs. Output Power with Source and Load Impedances Optimized for Drain Efficiency at 2.0 GHz
V_{DD} = 28 V, I_{DQ} = 200 mA

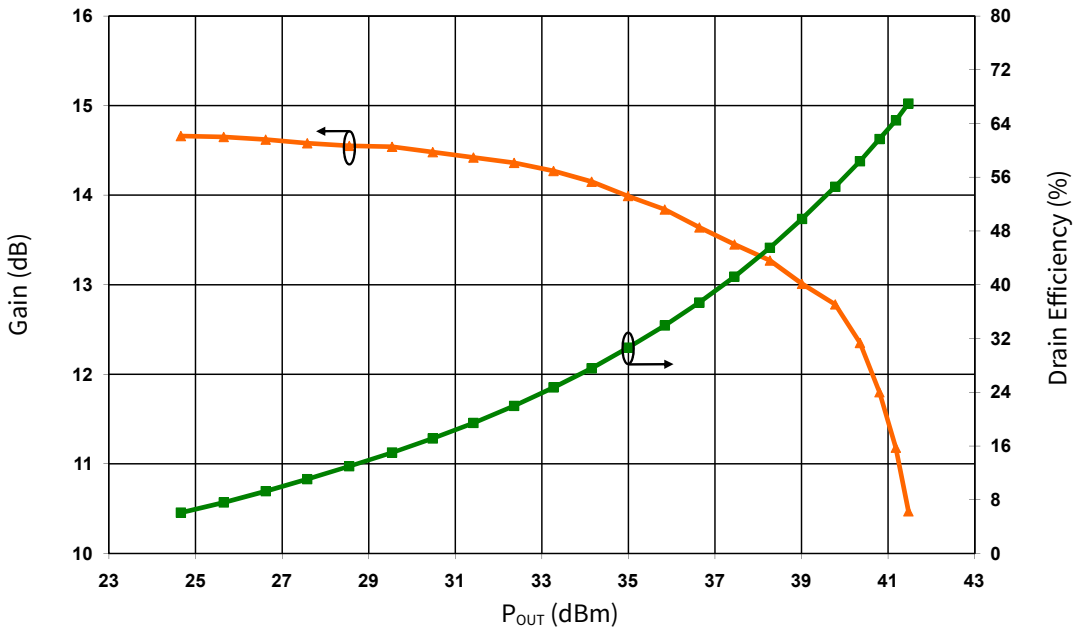


Figure 4. Swept CW Data of CGH40010F vs. Output Power with Source and Load Impedances Optimized for Drain Efficiency at 3.6 GHz
V_{DD} = 28 V, I_{DQ} = 200 mA

Typical Performance

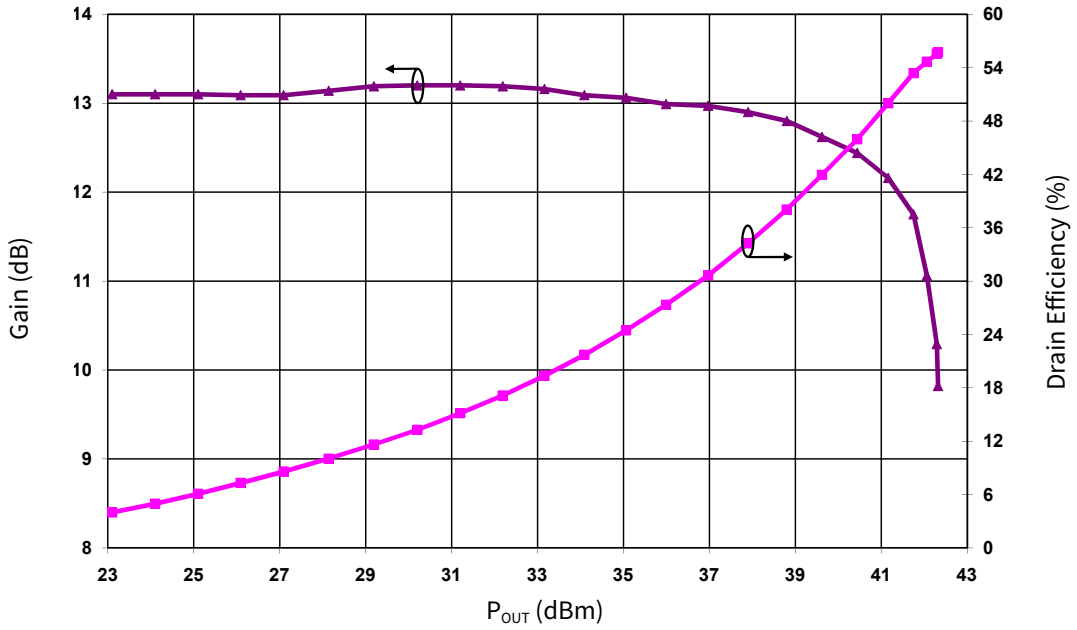


Figure 5. Swept CW Data of CGH40010F vs. Output Power with Source and Load Impedances Optimized for P1 Power at 3.6 GHz
V_{DD} = 28 V, I_{DQ} = 200 mA

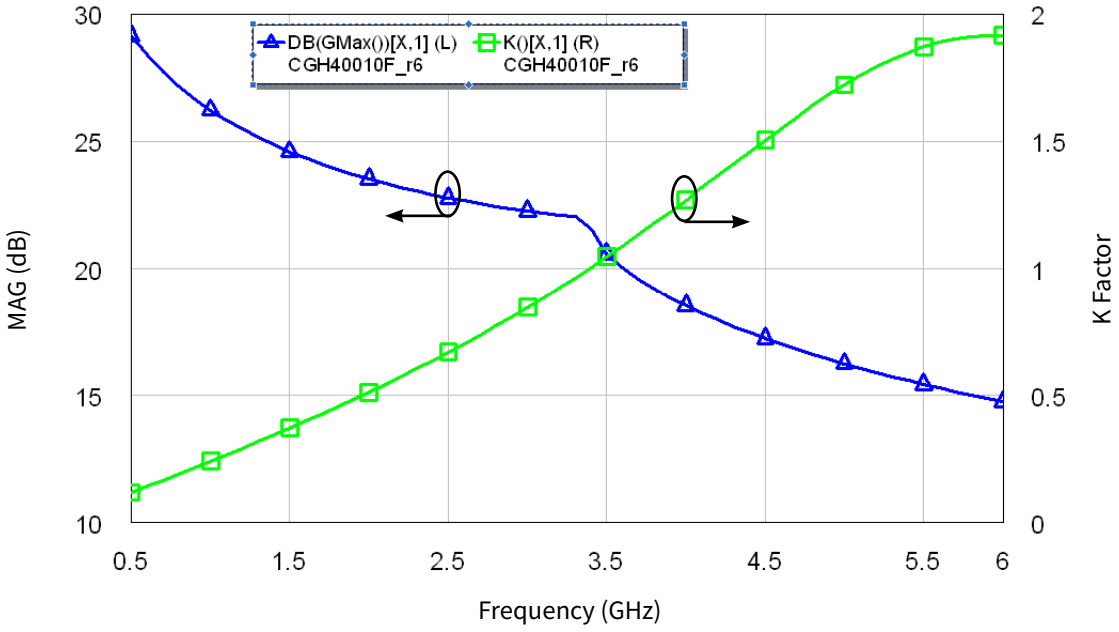


Figure 6. Simulated Maximum Available Gain and K Factor of the CGH40010F
V_{DD} = 28 V, I_{DQ} = 200 mA

Typical Noise Performance

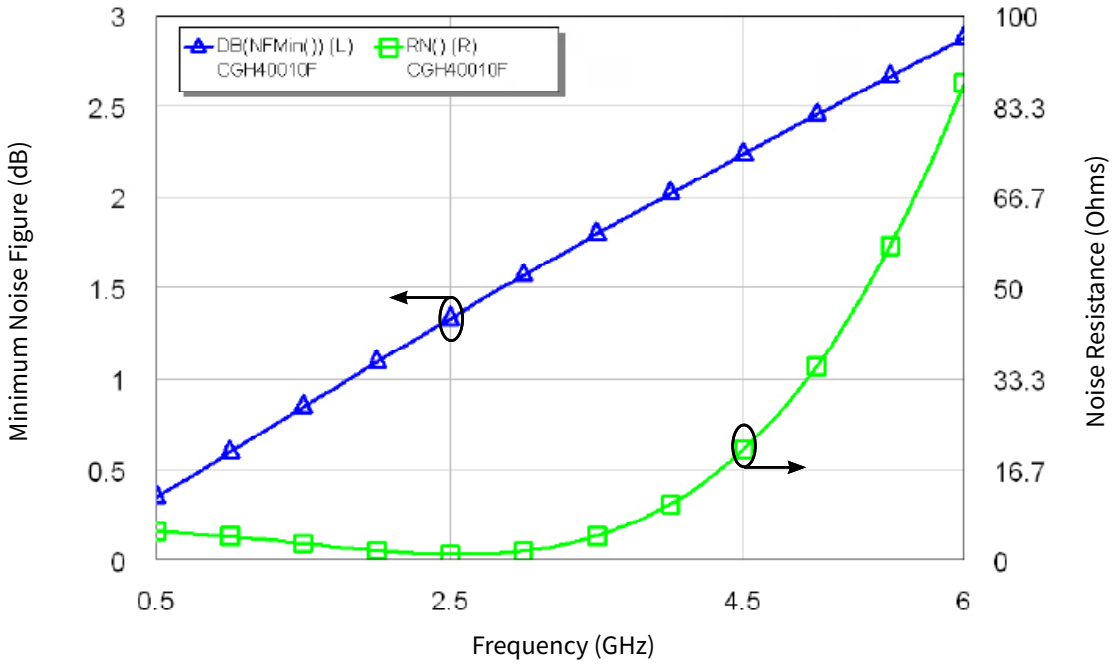
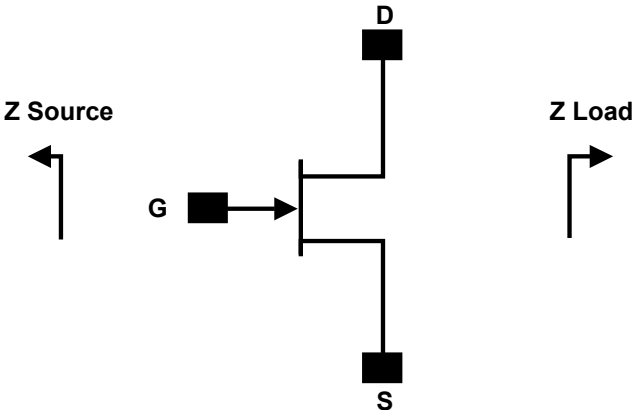


Figure 7. Simulated Minimum Noise Figure and Noise Resistance vs Frequency of the CGH40010F
V_{DD} = 28 V, I_{DQ} = 100 mA

Electrostatic Discharge (ESD) Classifications

Parameter	Symbol	Class	Classification Level	Test Methodology
Human Body Model	HBM	TBD	ANSI/ESDA/JEDEC JS-001 Table 3	JEDEC JESD22 A114-D
Charge Device Model	CDM	TBD	ANSI/ESDA/JEDEC JS-001 Table 3	JEDEC JESD22 C101-C

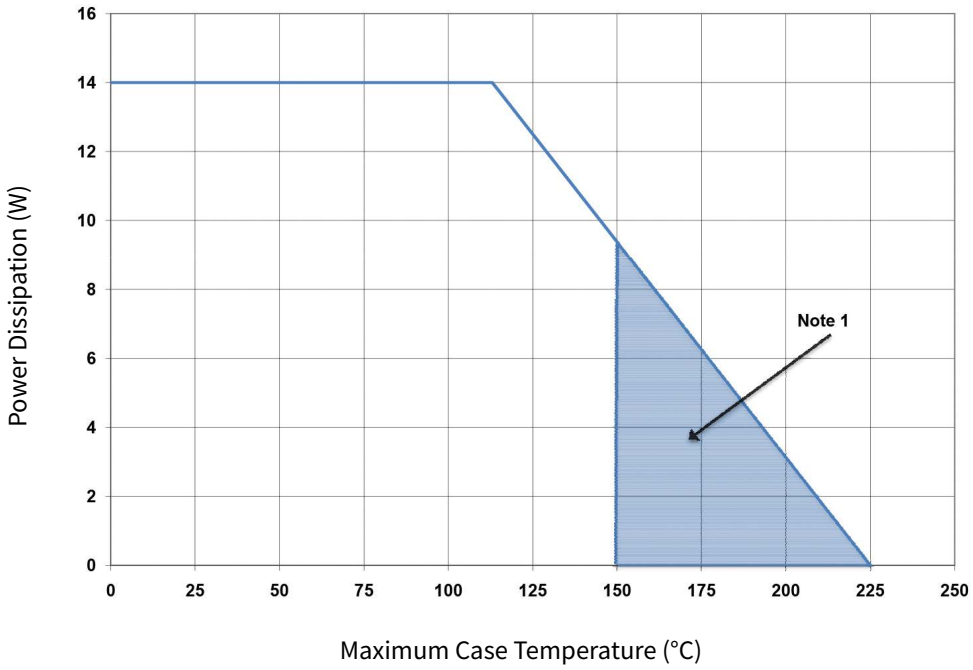
Source and Load Impedances



Frequency (MHz)	Z Source	Z Lead
500	20.2 + j16.18	51.7 + j15.2
1000	8.38 + j9.46	41.4 + j28.5
1500	7.37 + j0	28.15 + j29
2500	3.19 - j4.76	19 + j9.2
3500	3.18 - j13.3	14.6 + j7.45

Notes:
[1] V_{DD} = 28V, I_{DQ} = 200mA in the 440166 package.
[2] Optimized for power, gain, P_{SAT} and PAE.
[3] When using this device at low frequency, series resistors should be used to maintain amplifier stability.

CGH40010 Power Dissipation De-rating Curve

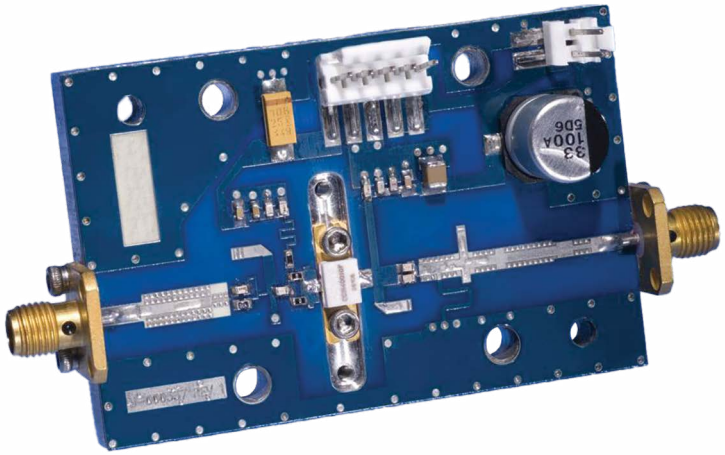


Note:
[1] Area exceeds Maximum Case Operating Temperature (See Page 2).

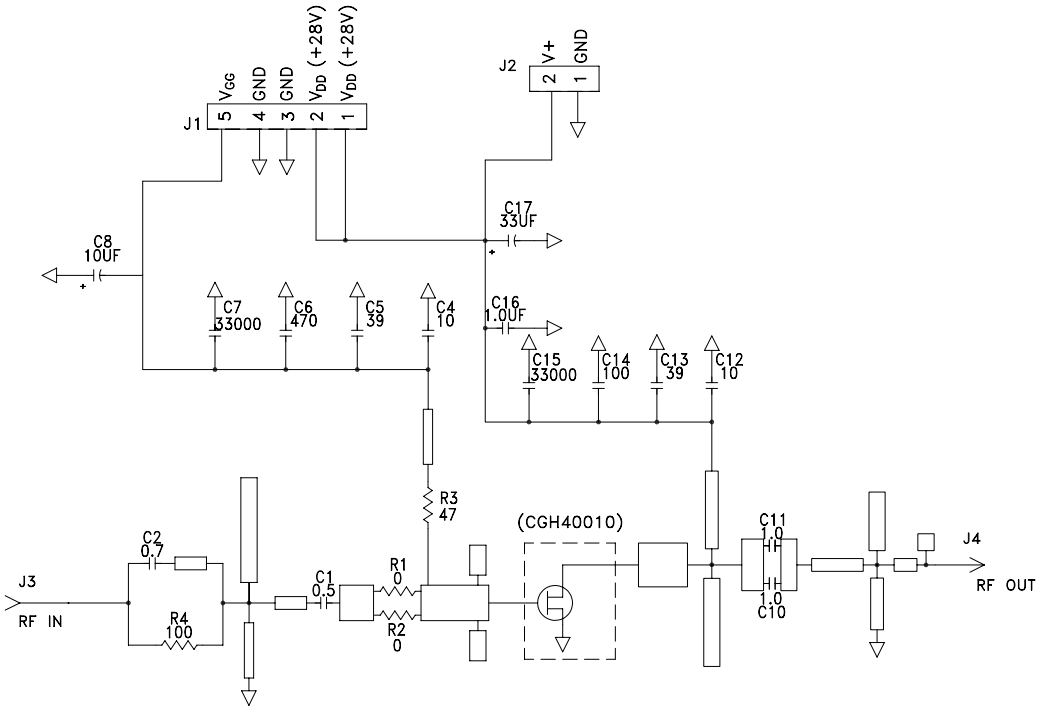
CGH40010-AMP Demonstration Amplifier Circuit Bill of Materials

Designator	Description	Qty
R1, R2	RES, 1/16W, 0603, 1%, 0 OHMS	1
R3	RES, 1/16W, 0603, 1%, 47 OHMS	1
R4	RES, 1/16W, 0603, 1%, 100 OHMS	1
C6	CAP, 470pF, 5%,100V, 0603	1
C17	CAP, 33µF, 20%, G CASE	1
C16	CAP, 1.0µF, 100V, 10%, X7R, 1210	1
C8	CAP, 10µF, 16V, TANTALUM	1
C14	CAP, 100.0pF, +/-5%, 0603	1
C1	CAP, 0.5pF, +/-0.05pF, 0603	1
C2	CAP, 0.7pF, +/-0.1pF, 0603	1
C10, C11	CAP, 1.0pF, +/-0.1pF, 0603	2
C4, C12	CAP, 10.0pF,+/-5%, 0603	2
C5, C13	CAP, 39pF, +/-5%, 0603	2
C7, C15	CAP, 33000pF, 0805, 100V, X7R	2
J3, J4	CONN SMA STR PANEL JACK RECP	1
J2	HEADER RT>PLZ.1CEN LK 2 POS	1
J1	HEADER RT>PLZ .1CEN LK 5POS	1
-	PCB, RO4350B, Er = 3.48, h = 20 mil	1
-	STAINLESS STEEL, SOCKET HEAD SCREWS, TYPE 2-56, LENGTH 1/4”	2
Q1	CGH40010F or CGH40010P	1

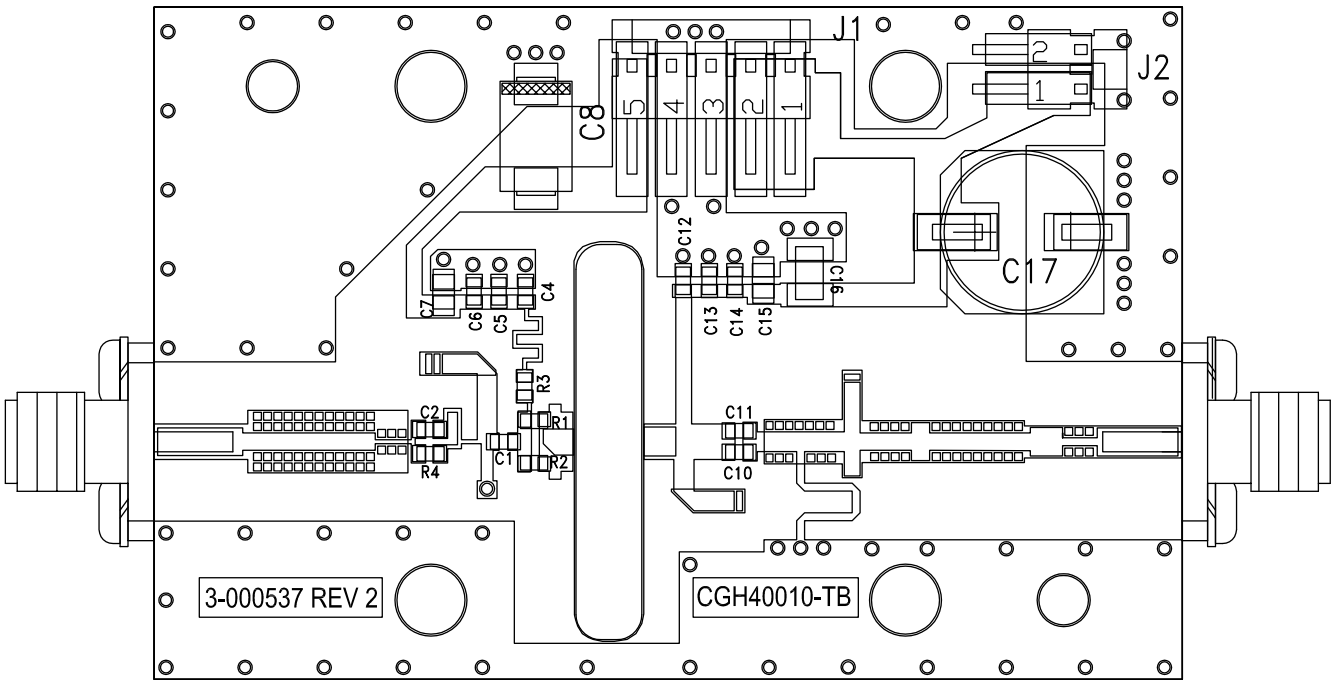
CGH40010-AMP Demonstration Amplifier Circuit



CGH40010-AMP Demonstration Amplifier Circuit Schematic



CGH40010-AMP Demonstration Amplifier Circuit Outline



Typical Package S-Parameters for CGH40010
(Small Signal, V_{DS} = 28 V, I_{DQ} = 100 mA, angle in degrees)

Frequency	Mag S11	Ang S11	Mag S21	Ang S21	Mag S12	Ang S12	Mag S22	Ang S22
500 MHz	0.909	-123.34	17.19	108.22	0.027	21.36	0.343	-90.81
600 MHz	0.902	-133.06	14.86	101.82	0.028	15.60	0.329	-98.65
700 MHz	0.897	-140.73	13.04	96.45	0.028	10.87	0.321	-104.84
800 MHz	0.894	-146.96	11.58	91.78	0.029	6.84	0.317	-109.84
900 MHz	0.891	-152.16	10.41	87.61	0.029	3.33	0.316	-113.95
1.0 GHz	0.890	-156.60	9.43	83.82	0.029	0.19	0.318	-117.42
1.1 GHz	0.889	-160.47	8.62	80.31	0.029	-2.66	0.321	-120.40
1.2 GHz	0.888	-163.90	7.93	77.02	0.029	-5.28	0.326	-123.02
1.3 GHz	0.887	-166.99	7.34	73.90	0.029	-7.72	0.332	-125.36
1.4 GHz	0.887	-169.80	6.82	70.92	0.029	-10.01	0.338	-127.51
1.5 GHz	0.887	-172.39	6.38	68.05	0.029	-12.18	0.345	-129.50
1.6 GHz	0.887	-174.80	5.98	65.28	0.028	-14.24	0.353	-131.37
1.7 GHz	0.887	-177.07	5.63	62.59	0.028	-16.21	0.360	-133.15
1.8 GHz	0.887	-179.22	5.32	59.97	0.028	-18.09	0.369	-134.87
1.9 GHz	0.887	178.73	5.04	57.41	0.028	-19.91	0.377	-136.54
2.0 GHz	0.888	176.76	4.78	54.89	0.027	-21.66	0.385	-138.17
2.1 GHz	0.888	174.86	4.55	52.42	0.027	-23.35	0.393	-139.77
2.2 GHz	0.888	173.02	4.34	49.99	0.027	-24.98	0.402	-141.34
2.3 GHz	0.888	171.23	4.15	47.60	0.026	-26.56	0.410	-142.90
2.4 GHz	0.889	169.48	3.97	45.24	0.026	-28.08	0.418	-144.45
2.5 GHz	0.889	167.76	3.81	42.90	0.026	-29.55	0.426	-145.99
2.6 GHz	0.890	166.07	3.66	40.59	0.025	-30.98	0.434	-147.53
2.7 GHz	0.890	164.39	3.53	38.30	0.025	-32.36	0.442	-149.06
2.8 GHz	0.890	162.74	3.40	36.03	0.025	-33.69	0.450	-150.59
2.9 GHz	0.891	161.10	3.28	33.78	0.024	-34.97	0.458	-152.12
3.0 GHz	0.891	159.46	3.17	31.55	0.024	-36.20	0.465	-153.65
3.2 GHz	0.892	156.21	2.97	27.12	0.023	-38.51	0.479	-156.72
3.4 GHz	0.893	152.96	2.79	22.73	0.022	-40.63	0.493	-159.80
3.6 GHz	0.893	149.69	2.64	18.38	0.022	-42.52	0.505	-162.90
3.8 GHz	0.894	146.38	2.50	14.05	0.021	-44.17	0.517	-166.03
4.0 GHz	0.894	143.03	2.38	9.72	0.020	-45.56	0.527	-169.19
4.2 GHz	0.894	139.61	2.28	5.40	0.019	-46.67	0.537	-172.39
4.4 GHz	0.895	136.11	2.18	1.07	0.019	-47.46	0.546	-175.64
4.6 GHz	0.895	132.53	2.09	-3.29	0.018	-47.90	0.554	-178.95
4.8 GHz	0.895	128.85	2.01	-7.68	0.017	-47.96	0.561	177.69
5.0 GHz	0.895	125.06	1.94	-12.10	0.017	-47.61	0.568	174.25
5.2 GHz	0.895	121.15	1.88	-16.58	0.016	-46.84	0.573	170.72
5.4 GHz	0.895	117.11	1.82	-21.12	0.016	-45.67	0.578	167.10
5.6 GHz	0.895	112.94	1.77	-25.73	0.015	-44.12	0.582	163.38
5.8 GHz	0.895	108.62	1.72	-30.42	0.015	-42.30	0.586	159.54
6.0 GHz	0.895	104.15	1.68	-35.20	0.015	-40.33	0.589	155.56

To download the s-parameters in s2p format, go to the CGH40010 Product page.

Typical Package S-Parameters for CGH40010
(Small Signal, V_{DS} = 28 V, I_{DQ} = 200 mA, angle in degrees)

Frequency	Mag S11	Ang S11	Mag S21	Ang S21	Mag S12	Ang S12	Mag S22	Ang S22
500 MHz	0.911	-130.62	18.41	105.41	0.022	19.44	0.303	-112.24
600 MHz	0.906	-139.65	15.80	99.47	0.023	14.31	0.299	-119.83
700 MHz	0.902	-146.70	13.80	94.50	0.023	10.17	0.298	-125.50
800 MHz	0.899	-152.41	12.22	90.19	0.023	6.68	0.299	-129.85
900 MHz	0.898	-157.17	10.96	86.34	0.024	3.67	0.302	-133.28
1.0 GHz	0.896	-161.24	9.92	82.82	0.024	0.99	0.305	-136.05
1.1 GHz	0.896	-164.79	9.06	79.56	0.024	-1.41	0.309	-138.34
1.2 GHz	0.895	-167.95	8.33	76.49	0.024	-3.62	0.314	-140.30
1.3 GHz	0.895	-170.80	7.70	73.57	0.023	-5.66	0.320	-142.01
1.4 GHz	0.894	-173.41	7.17	70.78	0.023	-7.56	0.326	-143.54
1.5 GHz	0.894	-175.82	6.70	68.08	0.023	-9.35	0.332	-144.94
1.6 GHz	0.894	-178.09	6.28	65.47	0.023	-11.05	0.338	-146.24
1.7 GHz	0.894	179.78	5.92	62.92	0.023	-12.66	0.345	-147.48
1.8 GHz	0.894	177.75	5.59	60.43	0.023	-14.19	0.352	-148.68
1.9 GHz	0.894	175.81	5.30	57.99	0.023	-15.65	0.358	-149.84
2.0 GHz	0.894	173.94	5.04	55.59	0.022	-17.05	0.365	-150.99
2.1 GHz	0.894	172.13	4.80	53.23	0.022	-18.39	0.372	-152.12
2.2 GHz	0.894	170.37	4.58	50.91	0.022	-19.67	0.379	-153.26
2.3 GHz	0.895	168.65	4.38	48.61	0.022	-20.90	0.386	-154.39
2.4 GHz	0.895	166.96	4.20	46.33	0.021	-22.08	0.393	-155.54
2.5 GHz	0.895	165.30	4.03	44.08	0.021	-23.20	0.400	-156.69
2.6 GHz	0.895	163.66	3.88	41.84	0.021	-24.27	0.407	-157.85
2.7 GHz	0.895	162.04	3.74	39.63	0.021	-25.28	0.414	-159.03
2.8 GHz	0.895	160.43	3.60	37.43	0.020	-26.25	0.420	-160.22
2.9 GHz	0.896	158.83	3.48	35.24	0.020	-27.16	0.427	-161.42
3.0 GHz	0.896	157.24	3.37	33.06	0.020	-28.02	0.433	-162.64
3.2 GHz	0.896	154.06	3.16	28.74	0.019	-29.57	0.446	-165.13
3.4 GHz	0.896	150.87	2.98	24.44	0.019	-30.88	0.457	-167.69
3.6 GHz	0.896	147.66	2.82	20.16	0.018	-31.95	0.468	-170.31
3.8 GHz	0.897	144.41	2.68	15.89	0.018	-32.76	0.478	-173.00
4.0 GHz	0.897	141.10	2.56	11.61	0.017	-33.30	0.488	-175.77
4.2 GHz	0.897	137.72	2.45	7.33	0.017	-33.55	0.497	-178.61
4.4 GHz	0.897	134.26	2.35	3.03	0.017	-33.50	0.505	178.47
4.6 GHz	0.897	130.71	2.26	-1.31	0.016	-33.18	0.512	175.46
4.8 GHz	0.896	127.06	2.17	-5.68	0.016	-32.58	0.518	172.36
5.0 GHz	0.896	123.30	2.10	-10.09	0.016	-31.74	0.524	169.16
5.2 GHz	0.896	119.42	2.04	-14.57	0.016	-30.72	0.529	165.86
5.4 GHz	0.896	115.41	1.98	-19.10	0.016	-29.60	0.534	162.44
5.6 GHz	0.896	111.26	1.92	-23.71	0.016	-28.46	0.537	158.89
5.8 GHz	0.895	106.97	1.87	-28.40	0.017	-27.41	0.540	155.20
6.0 GHz	0.895	102.53	1.82	-33.19	0.017	-26.54	0.543	151.36

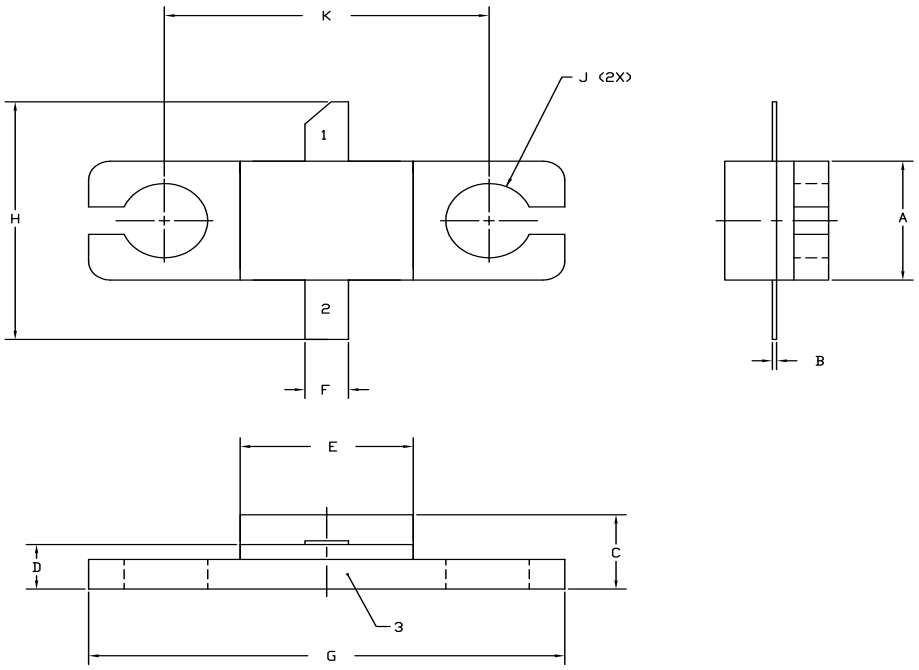
To download the s-parameters in s2p format, go to the CGH40010 Product page.

Typical Package S-Parameters for CGH40010
(Small Signal, V_{DS} = 28 V, I_{DQ} = 500 mA, angle in degrees)

Frequency	Mag S11	Ang S11	Mag S21	Ang S21	Mag S12	Ang S12	Mag S22	Ang S22
500 MHz	0.914	-135.02	18.58	103.70	0.020	18.36	0.300	-126.80
600 MHz	0.909	-143.57	15.88	98.05	0.020	13.67	0.302	-133.51
700 MHz	0.906	-150.23	13.83	93.33	0.021	9.90	0.304	-138.40
800 MHz	0.904	-155.61	12.23	89.23	0.021	6.77	0.307	-142.08
900 MHz	0.903	-160.09	10.95	85.56	0.021	4.08	0.311	-144.94
1.0 GHz	0.902	-163.93	9.91	82.21	0.021	1.71	0.314	-147.23
1.1 GHz	0.901	-167.29	9.04	79.09	0.021	-0.41	0.319	-149.10
1.2 GHz	0.901	-170.29	8.31	76.15	0.021	-2.35	0.323	-150.69
1.3 GHz	0.900	-173.00	7.69	73.35	0.021	-4.12	0.328	-152.07
1.4 GHz	0.900	-175.50	7.15	70.66	0.021	-5.78	0.333	-153.29
1.5 GHz	0.900	-177.81	6.69	68.07	0.021	-7.32	0.338	-154.41
1.6 GHz	0.900	-179.98	6.27	65.54	0.021	-8.77	0.344	-155.44
1.7 GHz	0.900	177.96	5.91	63.08	0.020	-10.15	0.349	-156.43
1.8 GHz	0.899	176.00	5.59	60.67	0.020	-11.45	0.355	-157.38
1.9 GHz	0.899	174.12	5.30	58.30	0.020	-12.68	0.361	-158.30
2.0 GHz	0.899	172.31	5.04	55.97	0.020	-13.85	0.366	-159.22
2.1 GHz	0.899	170.54	4.80	53.67	0.020	-14.96	0.372	-160.14
2.2 GHz	0.900	168.83	4.58	51.40	0.020	-16.01	0.378	-161.06
2.3 GHz	0.900	167.15	4.39	49.16	0.019	-17.01	0.384	-161.99
2.4 GHz	0.900	165.49	4.21	46.94	0.019	-17.95	0.390	-162.93
2.5 GHz	0.900	163.87	4.04	44.73	0.019	-18.85	0.396	-163.88
2.6 GHz	0.900	162.26	3.89	42.54	0.019	-19.69	0.402	-164.86
2.7 GHz	0.900	160.66	3.75	40.37	0.019	-20.48	0.407	-165.85
2.8 GHz	0.900	159.08	3.62	38.21	0.019	-21.21	0.413	-166.86
2.9 GHz	0.900	157.51	3.50	36.05	0.018	-21.89	0.418	-167.89
3.0 GHz	0.900	155.93	3.39	33.91	0.018	-22.52	0.424	-168.95
3.2 GHz	0.900	152.79	3.18	29.65	0.018	-23.61	0.435	-171.12
3.4 GHz	0.900	149.64	3.00	25.40	0.017	-24.48	0.445	-173.38
3.6 GHz	0.900	146.45	2.85	21.17	0.017	-25.11	0.454	-175.73
3.8 GHz	0.900	143.23	2.71	16.93	0.017	-25.51	0.463	-178.17
4.0 GHz	0.900	139.94	2.58	12.69	0.017	-25.67	0.471	179.30
4.2 GHz	0.900	136.58	2.47	8.43	0.016	-25.60	0.479	176.67
4.4 GHz	0.899	133.14	2.38	4.15	0.016	-25.32	0.486	173.94
4.6 GHz	0.899	129.61	2.29	-0.17	0.016	-24.85	0.492	171.12
4.8 GHz	0.899	125.97	2.21	-4.53	0.016	-24.24	0.498	168.18
5.0 GHz	0.898	122.23	2.13	-8.94	0.016	-23.54	0.503	165.13
5.2 GHz	0.898	118.36	2.07	-13.41	0.016	-22.80	0.507	161.96
5.4 GHz	0.898	114.36	2.01	-17.95	0.017	-22.11	0.511	158.66
5.6 GHz	0.897	110.22	1.95	-22.56	0.017	-21.54	0.514	155.22
5.8 GHz	0.897	105.94	1.90	-27.26	0.018	-21.16	0.517	151.63
6.0 GHz	0.897	101.51	1.86	-32.04	0.019	-21.04	0.519	147.87

To download the s-parameters in s2p format, go to the CGH40010 Product page.

Product Dimensions CGH40010F (Package Type — 440166)



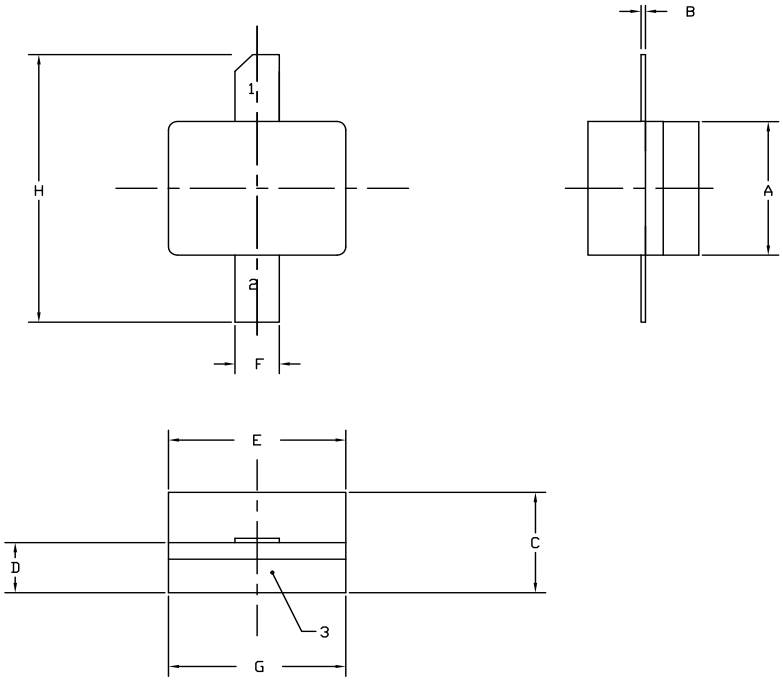
NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. ADHESIVE FROM LID MAY EXTEND A MAXIMUM OF 0.020" BEYOND EDGE OF LID.
4. LID MAY BE MISALIGNED TO THE BODY OF THE PACKAGE BY A MAXIMUM OF 0.008" IN ANY DIRECTION.
5. ALL PLATED SURFACES ARE NI/AU

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.155	0.165	3.94	4.19
B	0.004	0.006	0.10	0.15
C	0.115	0.135	2.92	3.43
D	0.057	0.067	1.45	1.70
E	0.195	0.205	4.95	5.21
F	0.045	0.055	1.14	1.40
G	0.545	0.555	13.84	14.09
H	0.280	0.360	7.11	9.14
J	ø .100		2.54	
K	0.375		9.53	

PIN 1. GATE
PIN 2. DRAIN
PIN 3. SOURCE

Product Dimensions CGH40010P (Package Type — 440196)



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. ADHESIVE FROM LID MAY EXTEND A MAXIMUM OF 0.020" BEYOND EDGE OF LID.
4. LID MAY BE MISALIGNED TO THE BODY OF THE PACKAGE BY A MAXIMUM OF 0.008" IN ANY DIRECTION.
5. ALL PLATED SURFACES ARE NI/AU

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.155	0.165	3.94	4.19
B	0.003	0.006	0.10	0.15
C	0.115	0.135	2.92	3.17
D	0.057	0.067	1.45	1.70
E	0.195	0.205	4.95	5.21
F	0.045	0.055	1.14	1.40
G	0.195	0.205	4.95	5.21
H	0.280	0.360	7.11	9.14

PIN 1. GATE
PIN 2. DRAIN
PIN 3. SOURCE

Part Number System

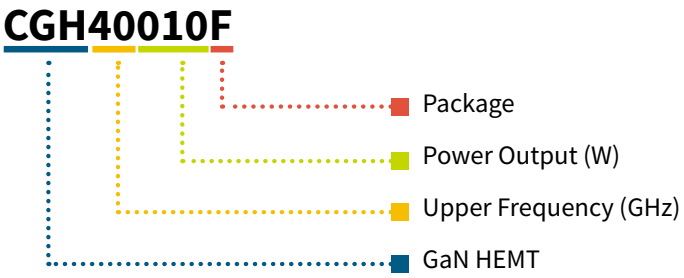


Table 1.

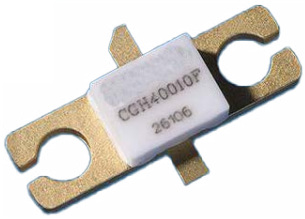
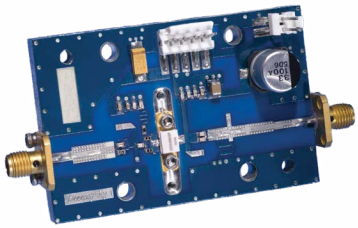
Parameter	Value	Units
Upper Frequency[1]	6.0	GHz
Power Output	10	W
Package	Flange or Pill	–

Note:
[1] Alpha characters used in frequency code indicate a value greater than 9.9 GHz. See Table 2 for value.

Table 2.

Character Code	Code Value
A	0
B	1
C	2
D	3
E	4
F	5
G	6
H	7
J	8
K	9
Examples	1A = 10.0 GHz 2H = 27.0 GHz

Product Ordering Information

Order Number	Description	Unit of Measure	Image
CGH40010F	GaN HEMT	Each	
CGH40010P	GaN HEMT	Each	
CGH40010F-AMP	Test board with GaN HEMT installed	Each	

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