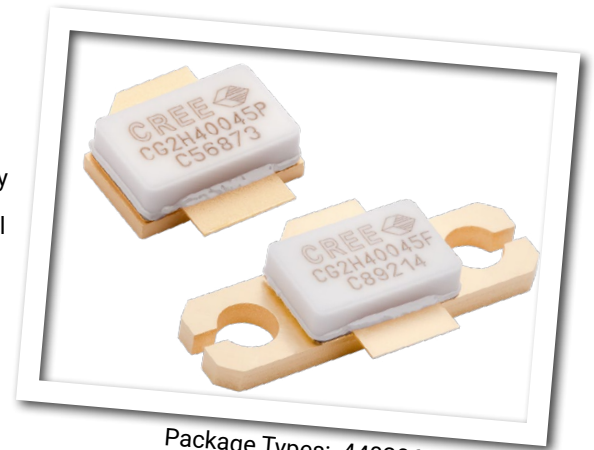


CG2H40045

45 W, DC - 4 GHz RF Power GaN HEMT

Cree's CG2H40045 is an unmatched, gallium nitride (GaN) high electron mobility transistor (HEMT). The CG2H40045, 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 CG2H40045 ideal for linear and compressed amplifier circuits. The transistor is available in a flange and pill package.



Package Types: 440206 & 440223
PN's: CG2H40045P & CG2H40045F

FEATURES

- Up to 4 GHz Operation
- 18 dB Small Signal Gain at 2.0 GHz
- 14 dB Small Signal Gain at 4.0 GHz
- 55 W Typical P_{SAT}
- 60 % 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

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

| Parameter | Symbol | Rating | Units | Conditions |
|---------------------------------------------------|------------|-----------|-------|------------|
| Drain-Source Voltage | V_{DSS} | 120 | Volts | 25°C |
| Gate-to-Source Voltage | V_{GS} | -10, +2 | Volts | 25°C |
| Storage Temperature | T_{STG} | -65, +150 | °C | |
| Operating Junction Temperature | T_J | 225 | °C | |
| Maximum Forward Gate Current | I_{GMAX} | 15 | mA | 25°C |
| Maximum Drain Current ¹ | I_{DMAX} | 6 | A | 25°C |
| Soldering Temperature ² | T_S | 245 | °C | |
| Screw Torque | τ | 80 | in-oz | |
| Thermal Resistance, Junction to Case ³ | R_{JJC} | 2.8 | °C/W | 85°C |
| Case Operating Temperature ^{3,4} | T_C | -40, +150 | °C | |

Note:

¹ Current limit for long term, reliable operation

² Refer to the Application Note on soldering at www.cree.com/RF/Document-Library

³ Measured for the CG2H40045F at $P_{DISS} = 56W$.

⁴ See also, the Power Dissipation De-rating Curve on Page 8.

Electrical Characteristics ($T_C = 25^\circ C$)

| Characteristics | Symbol | Min. | Typ. | Max. | Units | Conditions |
|-------------------------------------------------------------------------------------------------------------|--------------|------|------|--------|----------|--------------------------------------------------------------------------------------------|
| DC Characteristics¹ | | | | | | |
| Gate Threshold Voltage | $V_{GS(th)}$ | -3.8 | -3.0 | -2.3 | V_{DC} | $V_{DS} = 10 V, I_D = 14.4 mA$ |
| Gate Quiescent Voltage | $V_{GS(Q)}$ | - | -2.7 | - | V_{DC} | $V_{DS} = 28 V, I_D = 400 mA$ |
| Saturated Drain Current ² | I_{DS} | 11.6 | 14.0 | - | A | $V_{DS} = 6.0 V, V_{GS} = 2.0 V$ |
| Drain-Source Breakdown Voltage | V_{BR} | 120 | - | - | V_{DC} | $V_{GS} = -8 V, I_D = 14.4 mA$ |
| RF Characteristics³ ($T_C = 25^\circ C, F_0 = 2.5 GHz$ unless otherwise noted) | | | | | | |
| Small Signal Gain | G_{SS} | 15 | 17 | - | dB | $V_{DD} = 28 V, I_{DQ} = 400 mA$ |
| Power Output ⁴ | P_{SAT} | 47 | 55 | - | W | $V_{DD} = 28 V, I_{DQ} = 400 mA$ |
| Drain Efficiency ⁵ | η | 52 | 62 | - | % | $V_{DD} = 28 V, I_{DQ} = 400 mA, P_{OUT} = P_{SAT}$ |
| Output Mismatch Stress | VSWR | - | - | 10 : 1 | Ψ | No damage at all phase angles, $V_{DD} = 28 V, I_{DQ} = 400 mA,$ $P_{OUT} = 45 W CW$ |
| Dynamic Characteristics | | | | | | |
| Input Capacitance | C_{GS} | - | 16.6 | - | pF | $V_{DS} = 28 V, V_{GS} = -8 V, f = 1 MHz$ |
| Output Capacitance | C_{DS} | - | 6.3 | - | pF | $V_{DS} = 28 V, V_{GS} = -8 V, f = 1 MHz$ |
| Feedback Capacitance | C_{GD} | - | 0.6 | - | pF | $V_{DS} = 28 V, V_{GS} = -8 V, f = 1 MHz$ |

Notes:

¹ Measured on wafer prior to packaging.

² Scaled from PCM data.

³ Measured in CG2H40045F-AMP

⁴ P_{SAT} is defined as $I_G = 1.08 mA$.

⁵ Drain Efficiency = P_{OUT} / P_{DC}

Typical Performance

Figure 1. - Small Signal Gain and Input Return Loss of the CG2H40045F-AMP vs Frequency
 $V_{DD} = 28\text{ V}, I_{DQ} = 400\text{ mA}$

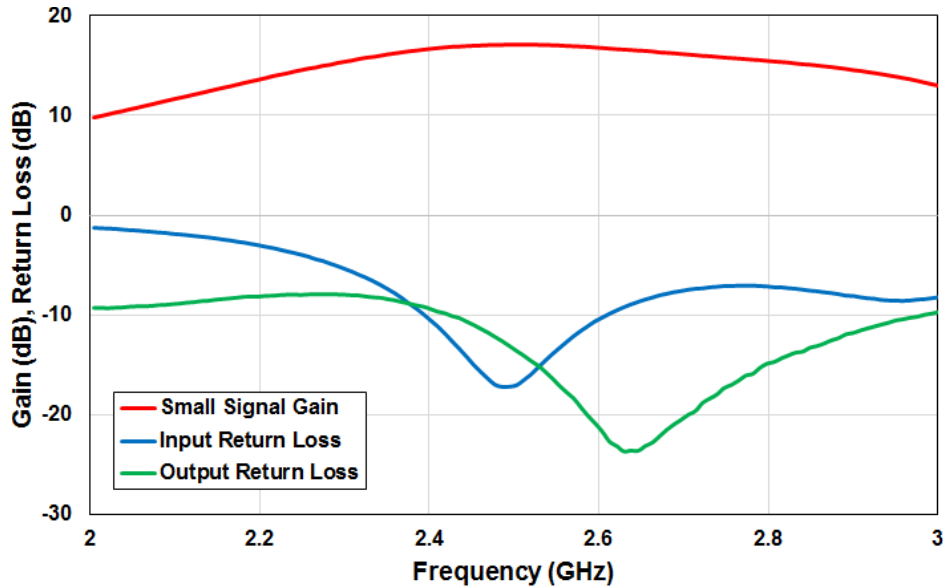
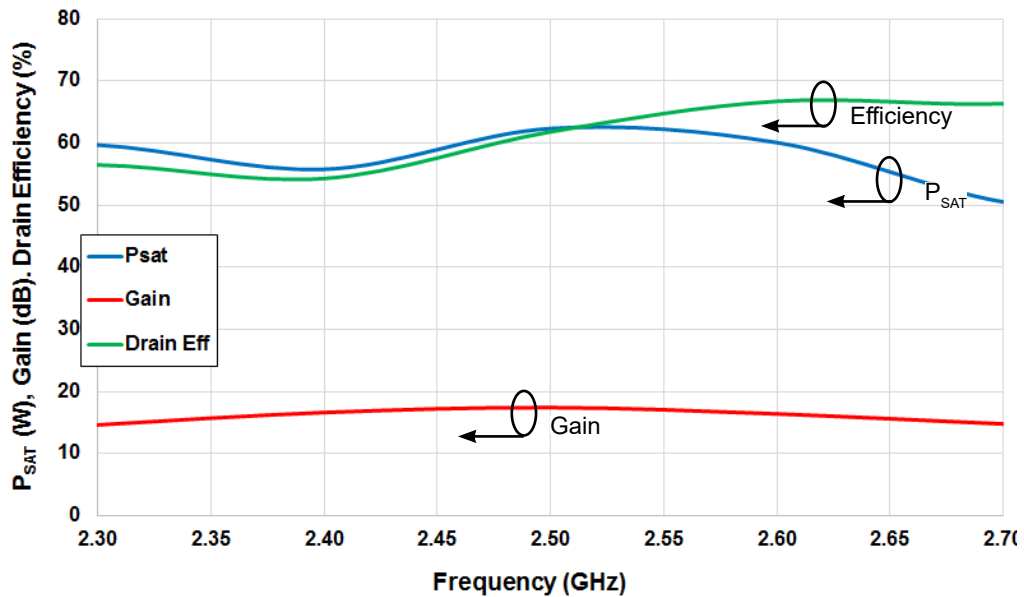


Figure 2. - Gain, Efficiency, and Output Power vs Frequency measured in Amplifier Circuit CG2H40045F-AMP
 $V_{DD} = 28\text{ V}, I_{DQ} = 400\text{ mA}$



Typical Performance

Figure 3. - Gain and Efficiency vs Output Power
 measured in Amplifier Circuit CG2H40045F-AMP
 $V_{DD} = 28\text{ V}$, $I_{DQ} = 400\text{ mA}$, Freq = 2.5 GHz

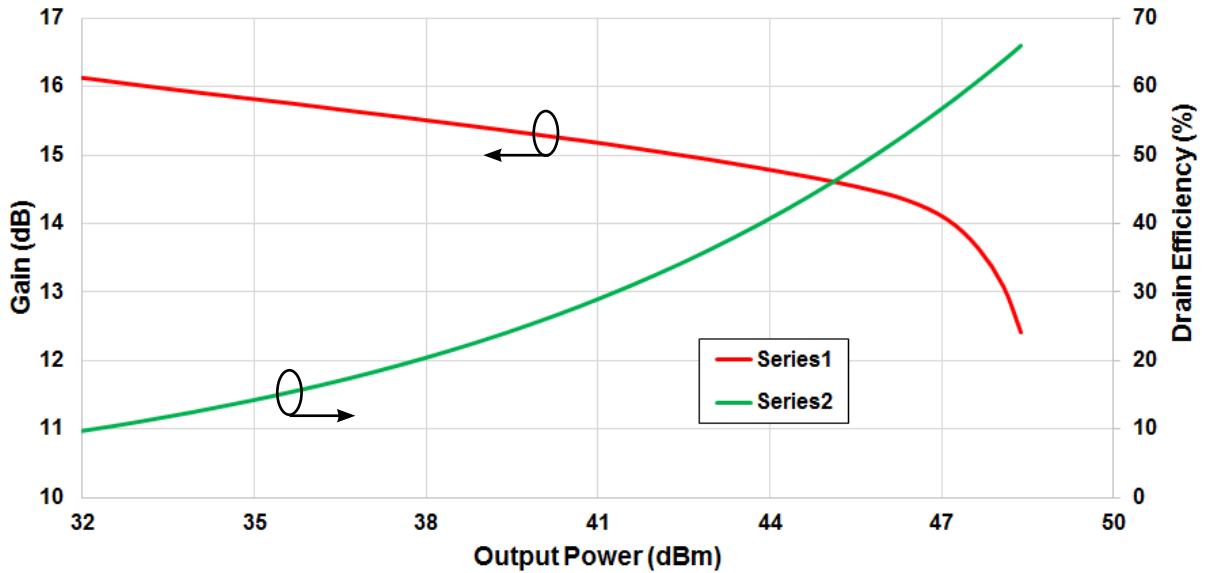
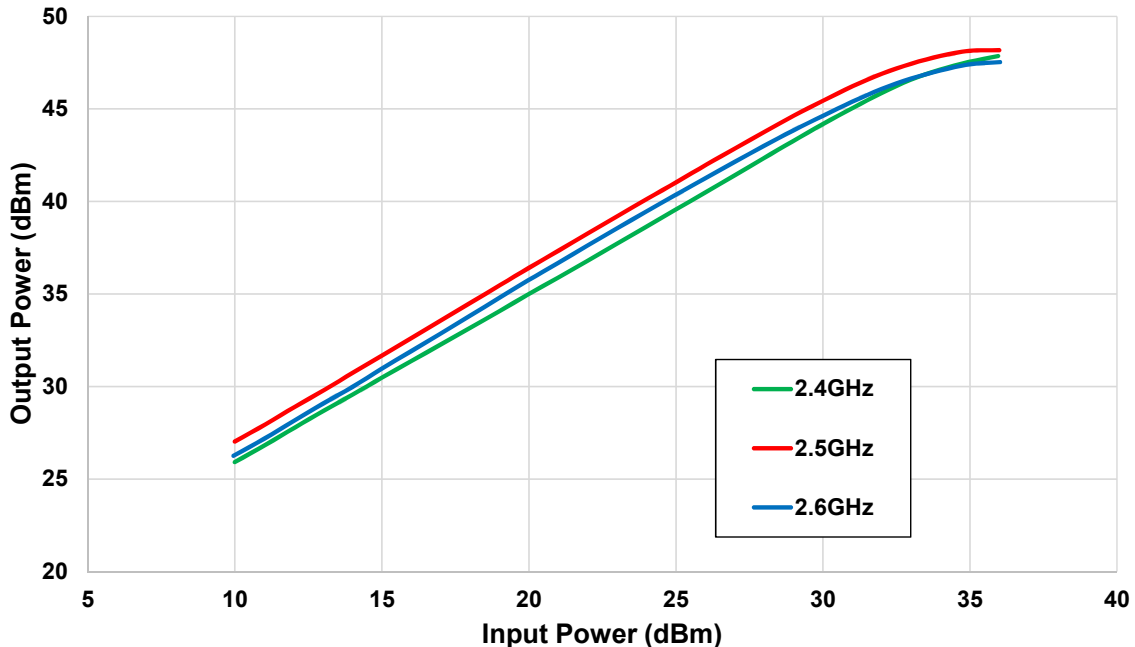


Figure 4. - Single Tone CW Output Power vs Input Power
 measured in Amplifier Circuit CG2H40045F-AMP
 $V_{DD} = 28\text{ V}$, $I_{DQ} = 400\text{ mA}$



Typical Performance

Figure 5. - Maximum Available Gain and K Factor of the CG2H40045
 $V_{DD} = 28\text{ V}$, $I_{DQ} = 400\text{ mA}$

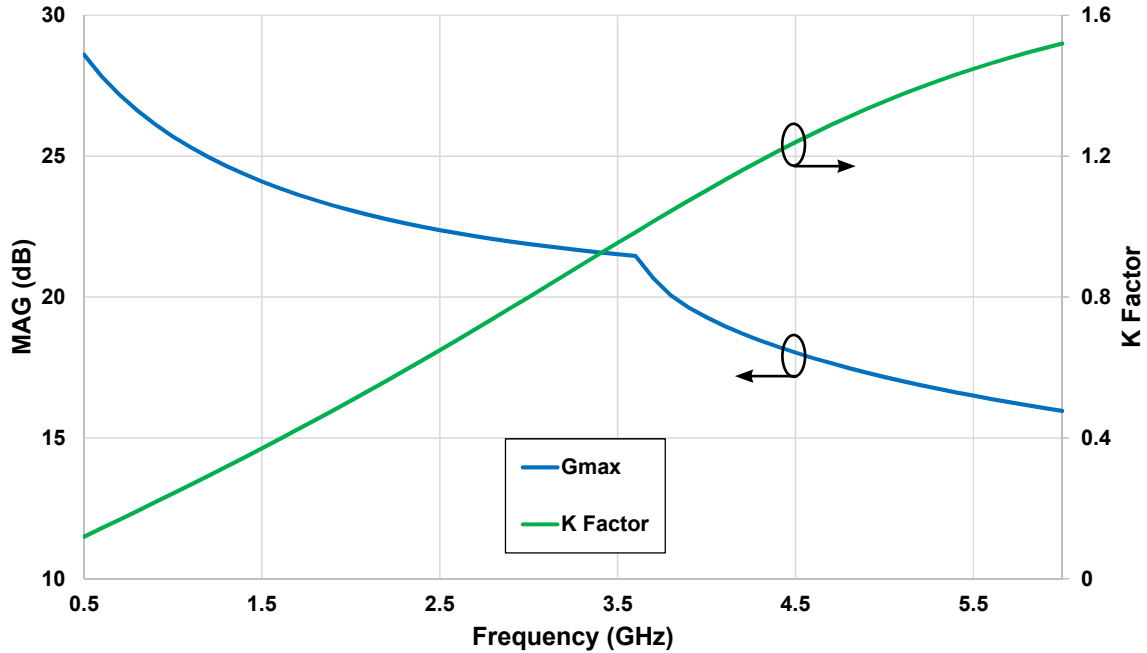
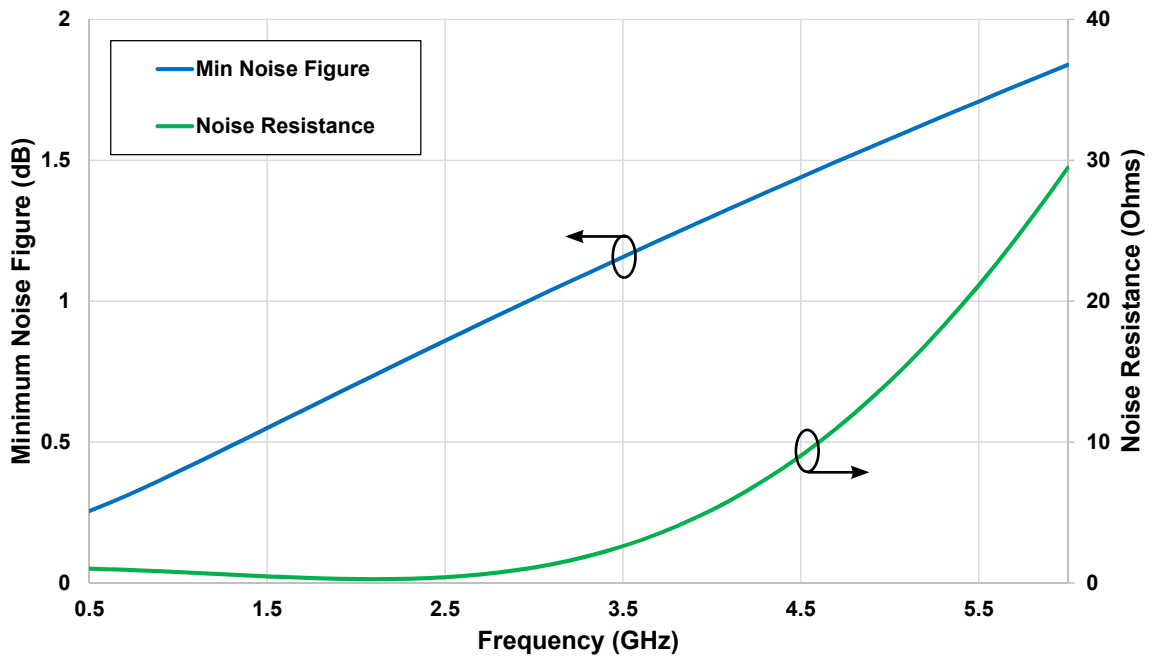


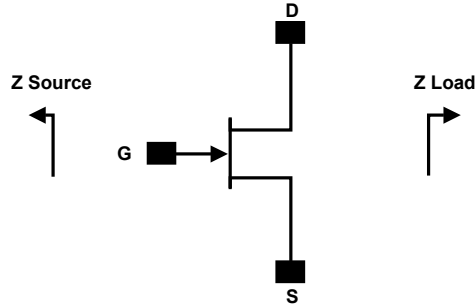
Figure 6. - Simulated Minimum Noise Figure and Noise Resistance vs Frequency of the CG2H40045
 $V_{DD} = 28\text{ V}$, $I_{DQ} = 400\text{ mA}$



Electrostatic Discharge (ESD) Classifications

| Parameter | Symbol | Class | Test Methodology |
|---------------------|--------|------------|---------------------|
| Human Body Model | HBM | 1A > 250 V | JEDEC JESD22 A114-D |
| Charge Device Model | CDM | 1 < 200 V | JEDEC JESD22 C101-C |

Simulated Source and Load Impedances



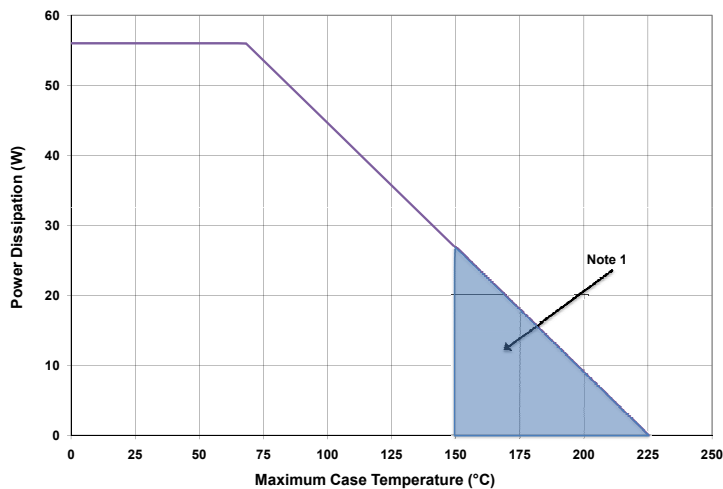
| Frequency (MHz) | Z Source | Z Load |
|-----------------|-------------|---------------|
| 500 | 4.1 + j5.27 | 14.73 + j6.91 |
| 750 | 2.9 + j 4.1 | 12.3 + j 7.6 |
| 1000 | 2.7 + j0.8 | 9.2 + j1.3 |
| 1100 | 1.9 + j 3.1 | 9.2 + j6.2 |
| 1500 | 2.1 - j 2.5 | 6.0 + j4.3 |
| 1700 | 2.2 - j2.0 | 6.5 + j2.3 |
| 1800 | 2.4 - j1.4 | 7.8 + j1.7 |
| 1900 | 2.8 - j1.8 | 6.5 + j0.6 |
| 2000 | 2.8 - j1.8 | 6.5 + j0.6 |
| 2100 | 2.5 - j2.7 | 5.4 + j0.2 |
| 3000 | 1.4 - j7.3 | 4.6 - j2.0 |
| 4000 | 2.4 - j11 | 4.4 - j3.5 |

Note 1. $V_{DD} = 28V$, $I_{DQ} = 800mA$ in the 440193 package.

Note 2. Optimized for power gain, P_{SAT} and PAE.

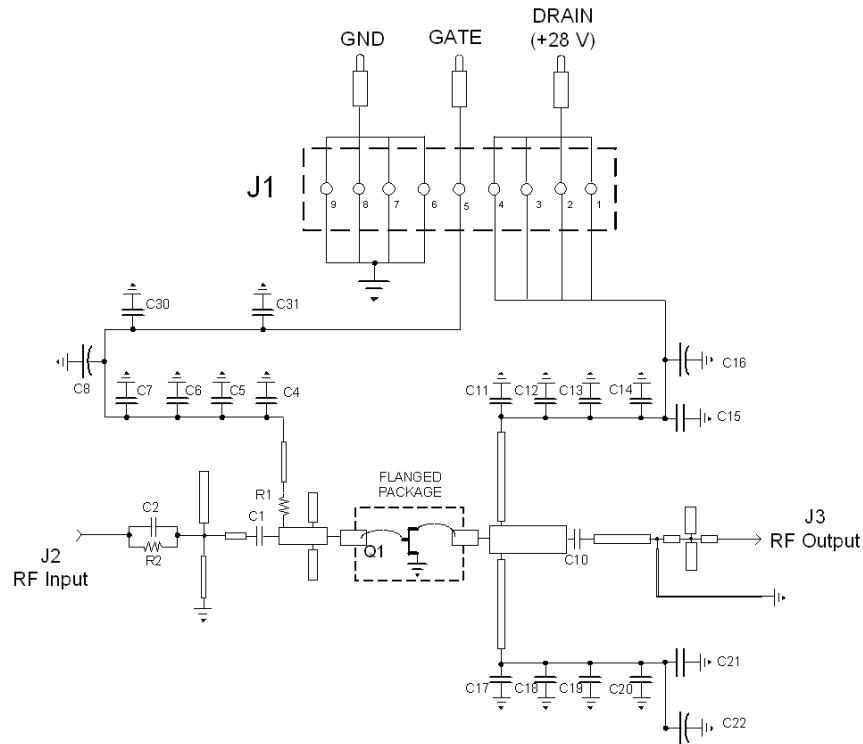
Note 3. When using this device at low frequency, series resistors should be used to maintain amplifier stability.

CG2H40045 Power Dissipation De-rating Curve

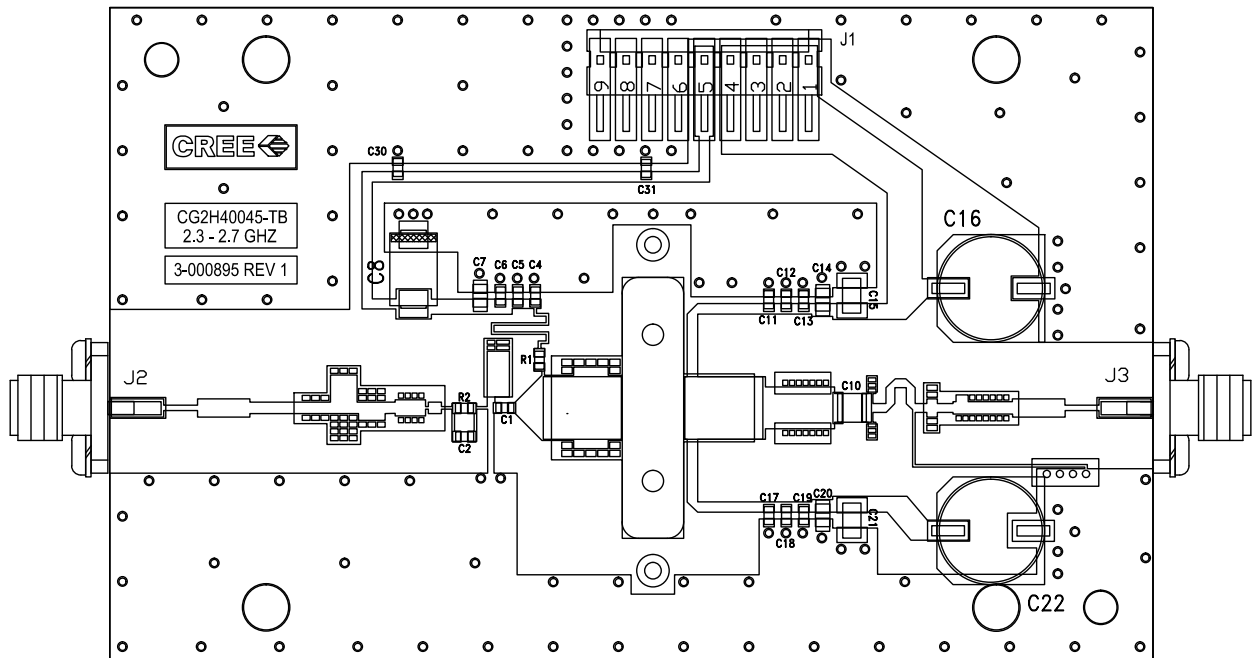


Note 1. Area exceeds Maximum Case Operating Temperature (See Page 2).

CG2H40045-AMP Demonstration Amplifier Circuit Schematic



CG2H40045-AMP Demonstration Amplifier Circuit Outline

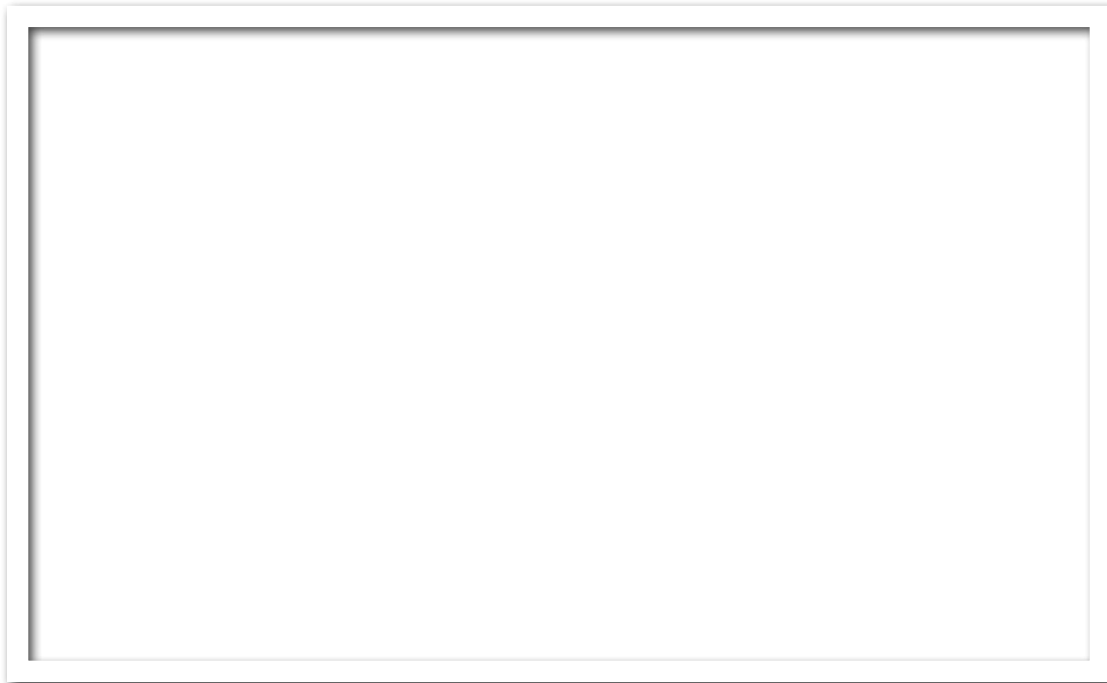


Note: The device slot is machined to different depths to support either pill or flanged versions

CG2H40045-AMP Demonstration Amplifier Circuit Bill of Materials

| Designator | Description | Qty |
|--------------------|----------------------------------------|-----|
| C1 | CAP, 0.8pF, ± 0.1 pF, 0603 | 1 |
| C2 | CAP, 2.2pF, ± 0.1 pF, 0603 | 1 |
| C4,C11,C17 | CAP, 10.0pF, +/-5%, 0603, ATC | 3 |
| C6,C13, C19 | CAP, 470pF ± 5 %, 100 V, 0603, X7R | 3 |
| C7,C14,C20 | CAP,33000PF, 0805,100V, X7R | 3 |
| C8 | CAP, 10UF, 16V, SMT, TANTALUM | 1 |
| C10 | CAP, 8.2pF ± 5 %, ATC100B | 1 |
| C15,C21 | CAP, 1.0UF ± 10 %, 100V, 1210, X7R | 2 |
| C5,C12,C18,C30,C31 | CAP, 82.0pF, ± 5 %, 0603 | 5 |
| C16,C22 | CAP, 33UF, 20%, G CASE | 2 |
| R2 | RES, 1/16W, 0603, 100 Ohms 1% | 1 |
| R1 | RES, 1/16W, 0603, 5.1 Ohms 1% | 1 |
| J2,J3 | CONN, SMA, PANEL MOUNT JACK, FLANGE | 2 |
| J1 | CONN, HEADER, RT>PLZ .1CEN LK 9POS | 1 |
| - | PCB, RO4350B, Er = 3.48, h = 20 mil | 1 |
| Q1 | CG2H40045 | 1 |

CG2H40045-AMP Demonstration Amplifier Circuit



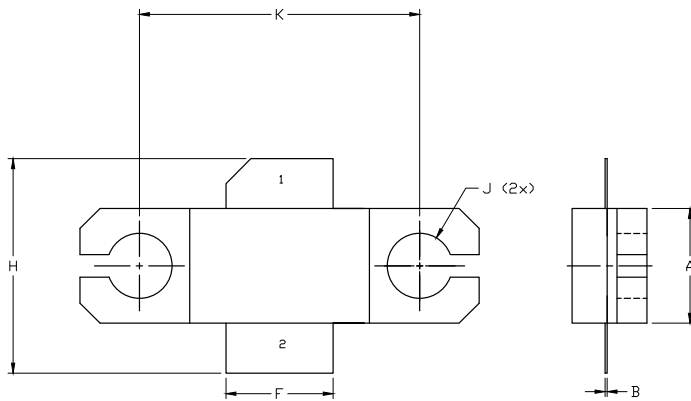
Typical Package S-Parameters for CG2H40045
 (Small Signal, $V_{DS} = 28\text{ V}$, $I_{DQ} = 400\text{ mA}$, angle in degrees)

| Frequency | Mag S11 | Ang S11 | Mag S21 | Ang S21 | Mag S12 | Ang S12 | Mag S22 | Ang S22 |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.500 | 0.924 | -171.10 | 9.020 | 83.83 | 0.012 | -0.74 | 0.733 | -175.20 |
| 0.600 | 0.924 | -173.39 | 7.526 | 80.67 | 0.012 | -2.80 | 0.736 | -176.01 |
| 0.700 | 0.924 | -175.16 | 6.456 | 77.77 | 0.012 | -4.58 | 0.738 | -176.61 |
| 0.800 | 0.924 | -176.61 | 5.653 | 75.04 | 0.012 | -6.20 | 0.740 | -177.08 |
| 0.900 | 0.925 | -177.85 | 5.027 | 72.44 | 0.012 | -7.68 | 0.743 | -177.48 |
| 1.000 | 0.925 | -178.94 | 4.527 | 69.92 | 0.012 | -9.06 | 0.745 | -177.83 |
| 1.100 | 0.925 | -179.93 | 4.118 | 67.47 | 0.012 | -10.36 | 0.748 | -178.15 |
| 1.200 | 0.925 | 179.15 | 3.779 | 65.08 | 0.012 | -11.59 | 0.750 | -178.46 |
| 1.300 | 0.926 | 178.29 | 3.492 | 62.74 | 0.012 | -12.76 | 0.753 | -178.76 |
| 1.400 | 0.926 | 177.47 | 3.247 | 60.45 | 0.012 | -13.87 | 0.756 | -179.06 |
| 1.500 | 0.926 | 176.68 | 3.035 | 58.19 | 0.012 | -14.93 | 0.758 | -179.37 |
| 1.600 | 0.927 | 175.91 | 2.851 | 55.97 | 0.012 | -15.93 | 0.761 | -179.69 |
| 1.700 | 0.927 | 175.15 | 2.690 | 53.78 | 0.012 | -16.89 | 0.764 | 179.98 |
| 1.800 | 0.927 | 174.41 | 2.548 | 51.62 | 0.012 | -17.79 | 0.767 | 179.64 |
| 1.900 | 0.928 | 173.66 | 2.423 | 49.49 | 0.011 | -18.65 | 0.769 | 179.28 |
| 2.000 | 0.928 | 172.92 | 2.311 | 47.38 | 0.011 | -19.46 | 0.772 | 178.91 |
| 2.100 | 0.928 | 172.18 | 2.211 | 45.30 | 0.011 | -20.23 | 0.774 | 178.53 |
| 2.200 | 0.928 | 171.43 | 2.121 | 43.24 | 0.011 | -20.95 | 0.777 | 178.12 |
| 2.300 | 0.928 | 170.67 | 2.041 | 41.20 | 0.011 | -21.63 | 0.779 | 177.70 |
| 2.400 | 0.928 | 169.90 | 1.969 | 39.17 | 0.011 | -22.27 | 0.781 | 177.27 |
| 2.500 | 0.928 | 169.12 | 1.905 | 37.17 | 0.011 | -22.87 | 0.783 | 176.81 |
| 2.600 | 0.928 | 168.32 | 1.847 | 35.17 | 0.011 | -23.43 | 0.785 | 176.34 |
| 2.700 | 0.928 | 167.51 | 1.795 | 33.19 | 0.011 | -23.95 | 0.787 | 175.85 |
| 2.800 | 0.927 | 166.67 | 1.748 | 31.22 | 0.011 | -24.44 | 0.788 | 175.34 |
| 2.900 | 0.927 | 165.82 | 1.707 | 29.25 | 0.011 | -24.90 | 0.790 | 174.82 |
| 3.000 | 0.926 | 164.94 | 1.670 | 27.29 | 0.011 | -25.32 | 0.791 | 174.27 |
| 3.200 | 0.925 | 163.09 | 1.609 | 23.37 | 0.011 | -26.10 | 0.793 | 173.13 |
| 3.400 | 0.923 | 161.12 | 1.564 | 19.43 | 0.011 | -26.81 | 0.794 | 171.90 |
| 3.600 | 0.921 | 158.99 | 1.533 | 15.44 | 0.011 | -27.47 | 0.794 | 170.59 |
| 3.800 | 0.918 | 156.67 | 1.515 | 11.38 | 0.011 | -28.13 | 0.793 | 169.19 |
| 4.000 | 0.914 | 154.13 | 1.510 | 7.20 | 0.011 | -28.86 | 0.791 | 167.68 |
| 4.200 | 0.910 | 151.31 | 1.519 | 2.88 | 0.012 | -29.69 | 0.787 | 166.06 |
| 4.400 | 0.904 | 148.17 | 1.541 | -1.65 | 0.012 | -30.72 | 0.783 | 164.31 |
| 4.600 | 0.897 | 144.63 | 1.577 | -6.44 | 0.013 | -32.03 | 0.777 | 162.41 |
| 4.800 | 0.888 | 140.59 | 1.630 | -11.56 | 0.013 | -33.71 | 0.769 | 160.34 |
| 5.000 | 0.877 | 135.92 | 1.701 | -17.09 | 0.014 | -35.87 | 0.759 | 158.07 |
| 5.200 | 0.864 | 130.47 | 1.791 | -23.15 | 0.016 | -38.66 | 0.747 | 155.55 |
| 5.400 | 0.848 | 124.02 | 1.905 | -29.86 | 0.017 | -42.23 | 0.732 | 152.73 |
| 5.600 | 0.828 | 116.27 | 2.045 | -37.39 | 0.019 | -46.76 | 0.715 | 149.54 |
| 5.800 | 0.804 | 106.83 | 2.212 | -45.93 | 0.021 | -52.46 | 0.693 | 145.87 |
| 6.000 | 0.775 | 95.17 | 2.407 | -55.72 | 0.023 | -59.58 | 0.668 | 141.58 |

Typical Package S-Parameters for CG2H40045
 (Small Signal, $V_{DS} = 28\text{ V}$, $I_{DQ} = 800\text{ mA}$, angle in degrees)

| Frequency | Mag S11 | Ang S11 | Mag S21 | Ang S21 | Mag S12 | Ang S12 | Mag S22 | Ang S22 |
|-----------|---------|---------|---------|---------|----------|---------|---------|---------|
| 0.500 | 0.939 | -172.50 | 8.967 | 84.35 | 0.010 | 1.41 | 0.762 | -177.28 |
| 0.600 | 0.939 | -174.64 | 7.489 | 81.47 | 0.010 | -0.03 | 0.763 | -178.00 |
| 0.700 | 0.939 | -176.32 | 6.432 | 78.83 | 0.010 | -1.23 | 0.764 | -178.57 |
| 0.800 | 0.939 | -177.71 | 5.639 | 76.33 | 0.010 | -2.28 | 0.765 | -179.05 |
| 0.900 | 0.939 | -178.91 | 5.024 | 73.94 | 0.010 | -3.21 | 0.767 | -179.47 |
| 1.000 | 0.939 | -179.98 | 4.532 | 71.62 | 0.010 | -4.05 | 0.768 | -179.85 |
| 1.100 | 0.939 | 179.05 | 4.131 | 69.36 | 0.010 | -4.82 | 0.769 | 179.79 |
| 1.200 | 0.939 | 178.15 | 3.798 | 67.15 | 0.010 | -5.54 | 0.770 | 179.44 |
| 1.300 | 0.939 | 177.29 | 3.518 | 64.97 | 0.009 | -6.20 | 0.771 | 179.10 |
| 1.400 | 0.939 | 176.47 | 3.279 | 62.82 | 0.009 | -6.81 | 0.773 | 178.77 |
| 1.500 | 0.939 | 175.67 | 3.073 | 60.70 | 0.009 | -7.38 | 0.774 | 178.43 |
| 1.600 | 0.939 | 174.90 | 2.894 | 58.61 | 0.009 | -7.90 | 0.775 | 178.09 |
| 1.700 | 0.938 | 174.13 | 2.737 | 56.54 | 0.009 | -8.39 | 0.777 | 177.74 |
| 1.800 | 0.938 | 173.38 | 2.600 | 54.49 | 0.009 | -8.83 | 0.778 | 177.38 |
| 1.900 | 0.938 | 172.63 | 2.478 | 52.45 | 0.009 | -9.24 | 0.779 | 177.01 |
| 2.000 | 0.938 | 171.87 | 2.370 | 50.43 | 0.009 | -9.61 | 0.780 | 176.64 |
| 2.100 | 0.938 | 171.12 | 2.274 | 48.42 | 0.009 | -9.95 | 0.781 | 176.25 |
| 2.200 | 0.937 | 170.36 | 2.188 | 46.43 | 0.009 | -10.25 | 0.782 | 175.85 |
| 2.300 | 0.937 | 169.59 | 2.111 | 44.44 | 0.009 | -10.53 | 0.783 | 175.43 |
| 2.400 | 0.937 | 168.80 | 2.043 | 42.47 | 0.009 | -10.77 | 0.784 | 175.00 |
| 2.500 | 0.936 | 168.01 | 1.981 | 40.50 | 0.009 | -10.98 | 0.785 | 174.56 |
| 2.600 | 0.936 | 167.20 | 1.926 | 38.53 | 0.009 | -11.17 | 0.785 | 174.10 |
| 2.700 | 0.935 | 166.37 | 1.877 | 36.57 | 0.009 | -11.34 | 0.786 | 173.63 |
| 2.800 | 0.934 | 165.52 | 1.833 | 34.61 | 0.009 | -11.49 | 0.786 | 173.14 |
| 2.900 | 0.934 | 164.65 | 1.795 | 32.65 | 0.009 | -11.62 | 0.786 | 172.63 |
| 3.000 | 0.933 | 163.75 | 1.761 | 30.69 | 0.010 | -11.74 | 0.786 | 172.11 |
| 3.200 | 0.931 | 161.87 | 1.705 | 26.74 | 0.010 | -11.97 | 0.786 | 171.00 |
| 3.400 | 0.928 | 159.85 | 1.665 | 22.74 | 0.010 | -12.20 | 0.784 | 169.82 |
| 3.600 | 0.925 | 157.66 | 1.640 | 18.67 | 0.010 | -12.49 | 0.782 | 168.56 |
| 3.800 | 0.921 | 155.28 | 1.628 | 14.50 | 0.011 | -12.89 | 0.779 | 167.20 |
| 4.000 | 0.917 | 152.67 | 1.630 | 10.19 | 0.011 | -13.46 | 0.775 | 165.75 |
| 4.200 | 0.912 | 149.77 | 1.645 | 5.71 | 0.012 | -14.26 | 0.770 | 164.17 |
| 4.400 | 0.905 | 146.53 | 1.675 | 1.00 | 0.012 | -15.37 | 0.763 | 162.48 |
| 4.600 | 0.897 | 142.86 | 1.721 | -4.00 | 0.013 | -16.87 | 0.754 | 160.63 |
| 4.800 | 0.887 | 138.67 | 1.784 | -9.36 | 0.014 | -18.85 | 0.744 | 158.62 |
| 5.000 | 0.875 | 133.82 | 1.865 | -15.16 | 0.015 | -21.43 | 0.731 | 156.41 |
| 5.200 | 0.860 | 128.15 | 1.969 | -21.52 | 0.017 | -24.72 | 0.717 | 153.98 |
| 5.400 | 0.842 | 121.43 | 2.096 | -28.57 | 0.019 | -28.86 | 0.699 | 151.27 |
| 5.600 | 0.820 | 113.34 | 2.250 | -36.47 | 0.021 | -34.03 | 0.678 | 148.22 |
| 5.800 | 0.794 | 103.490 | 2.432 | -45.404 | 0.023 | -40.418 | 0.654 | 144.730 |
| 6 | 0.76376 | 91.356 | 2.6393 | -55.605 | 0.025877 | -48.247 | 0.6254 | 140.65 |

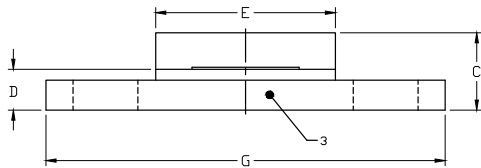
Product Dimensions CG2H40045F (Package Type – 440223)



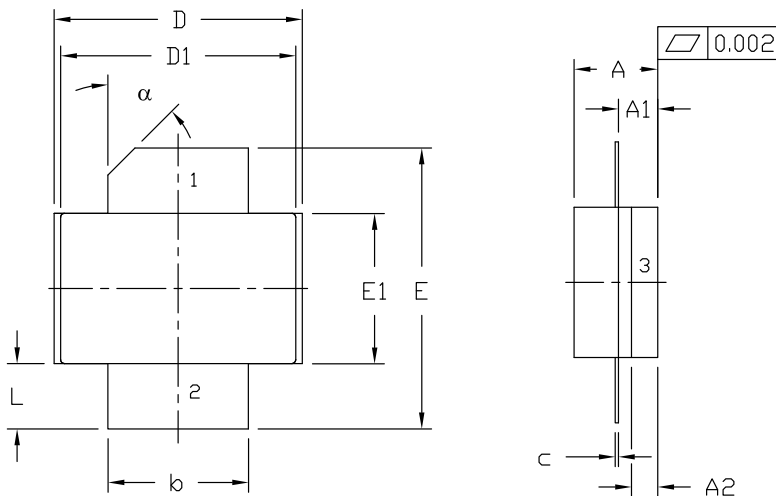
- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. ADHESIVE FROM LID MAY EXTEND A MAXIMUM OF 0.020" BEYOND EDGE OF LID.
 4. LID MAY BE MISALIGNED TO THE BODY OF THE PACKAGE BY A MAXIMUM OF 0.008° IN ANY DIRECTION.
 5. ALL PLATED SURFACES ARE Ni/AU

| DIM | INCHES | | MILLIMETERS | |
|-----|--------|-------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.225 | 0.235 | 5.72 | 5.97 |
| B | 0.004 | 0.006 | 0.10 | 0.15 |
| C | 0.145 | 0.165 | 3.68 | 4.19 |
| D | 0.077 | 0.087 | 1.96 | 2.21 |
| E | 0.355 | 0.365 | 9.02 | 9.27 |
| F | 0.210 | 0.220 | 5.33 | 5.59 |
| G | 0.795 | 0.805 | 20.19 | 20.45 |
| H | 0.400 | 0.460 | 10.16 | 11.68 |
| J | ∅ .130 | | 3.30 | |
| k | | 0.562 | | 14.27 |

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



Product Dimensions CG2H40045P (Package Type – 440206)





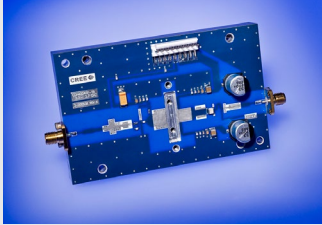
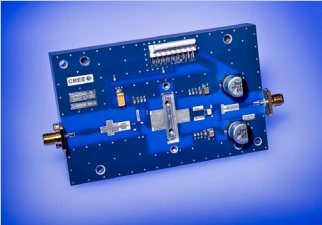
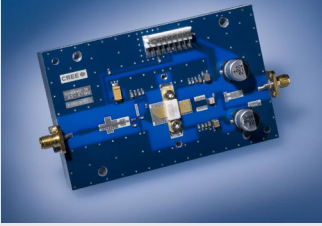

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M - 1994.
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 PACKAGE BY A MAXIMUM OF 0.008° IN ANY DIRECTION.

| DIM | INCHES | | MILLIMETERS | | NOTES |
|-----|--------|-------|-------------|-------|-------|
| | MIN | MAX | MIN | MAX | |
| A | 0.125 | 0.145 | 3.18 | 3.68 | |
| A1 | 0.057 | 0.067 | 1.45 | 1.70 | |
| A2 | 0.035 | 0.045 | 0.89 | 1.14 | |
| b | 0.210 | 0.220 | 5.33 | 5.59 | 2x |
| c | 0.004 | 0.006 | 0.10 | 0.15 | 2x |
| D | 0.375 | 0.385 | 9.53 | 9.78 | |
| D1 | 0.355 | 0.365 | 9.02 | 9.27 | |
| E | 0.400 | 0.460 | 10.16 | 11.68 | |
| E1 | 0.225 | 0.235 | 5.72 | 5.97 | |
| L | 0.085 | 0.115 | 2.16 | 2.92 | 2x |
| α | 45° | REF | 45° | REF | |

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

Product Ordering Information

| Order Number | Description | Unit of Measure | Image |
|----------------|------------------------------------|-----------------|---------------------------------------------------------------------------------------|
| CG2H40045F | GaN HEMT | Each |  |
| CG2H40045P | GaN HEMT | Each |  |
| CG2H40045F-TB | Test board without GaN HEMT | Each |  |
| CG2H40045P-TB | Test board without GaN HEMT | Each |  |
| CG2H40045F-AMP | Test board with GaN HEMT installed | Each |  |
| CG2H40045P-AMP | Test board with GaN HEMT installed | Each |  |



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