

# CCM2096 20 TO 2200 MHz HIGH POWER AMPLIFIER

|   |                |
|---|----------------|
| <i>Typical Values</i>                     | <b>CCM2096</b> |
| High Output Power .....                   | +36.5 dBm      |
| Ultra Broad Bandwidth .....               | 20-2000 MHz    |
| High Third Order I.P. ....                | +48 dBm        |
| High Performance Thin Film for RF Section |                |
| Includes Bias Sequencer                   |                |

## SPECIFICATIONS\*

| Parameter                | Typical                | Guaranteed  |               |            |
|--------------------------|------------------------|-------------|---------------|------------|
|                          |                        | 0 to 50° C  | -55 to +85° C |            |
| Frequency (Min.)         | 20-2200 MHz            | 20-2000 MHz | 20-2000 MHz   |            |
| Small Signal Gain (Min.) | 20.3 dB                | 19.5 dB     | 18.5 dB       |            |
| Gain Flatness (Max.)     | ±0.5 dB                | ±0.7 dB     | ±0.8 dB       |            |
| Noise Figure (Max.)      |                        |             |               |            |
|                          | 100-200 MHz            | 6.0 dB      | 6.5 dB        | 7.0 dB     |
|                          | 200-2000 MHz           | 4.0 dB      | 4.7 dB        | 5.2 dB     |
| SWR (Max.)               | Input/Output           | 1.7:1       | 2.0:1         | 2.0:1      |
| Power Output (Min.) ^    |                        |             |               |            |
|                          | @ 1dB comp. 50-500 MHz | +38.0† dBm  | +37.0† dBm    | +36.0† dBm |
|                          | 500-2000 MHz           | +36.5 dBm   | +35.5 dBm     | +35.0 dBm  |
| Reverse Isolation        | 31.0 dB                | —           | —             |            |
| DC Current (Max.)        |                        |             |               |            |
|                          | Output Stage +36 V     | 500 mA      | 520 mA        | 530 mA     |
|                          | Input Stage +15 V      | 440 mA      | 450 mA        | 460 mA     |

\* Measured in a 50-ohm system at +36 Vdc unless otherwise specified.  
^ Output Power averages 1.5 dBm less using +28 Vdc. † 0.5 dB lower below 50 MHz.

## INTERMODULATION PERFORMANCE

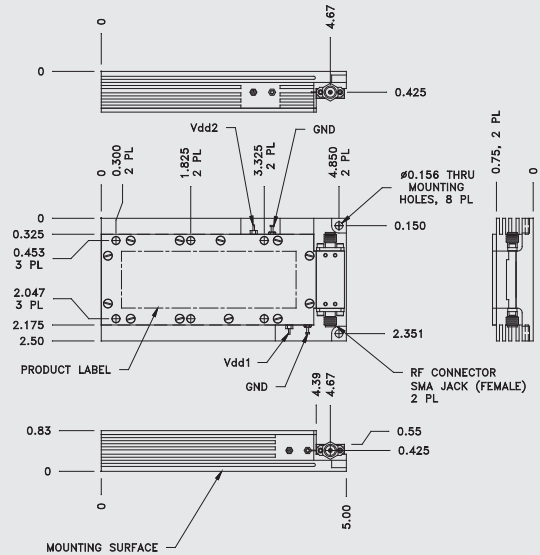
| Typical @ 25° C                             | +28 Volts | +36 Volts |
|---|-----------|-----------|
| Second Order Harmonic Intercept Point ..... | +64 dBm   | +64 dBm   |
| Second Order Two Tone Intercept Point. .... | +58 dBm   | +58 dBm   |
| Third Order Two Tone Intercept Point. ....  | +47 dBm   | +48 dBm   |

## ABSOLUTE MAXIMUM RATINGS

|  |                |              |
|--|----------------|--------------|
| Storage Temperature .....                            | -65 to 150° C  |              |
| Maximum Case Temperature .....                       | +105° C        |              |
| Maximum DC Voltage. Driver Stage .....               | +17 Volts      |              |
| Maximum DC Voltage. Output Stage .....               | +40 Volts      |              |
| Maximum Continuous RF Input Power .....              | +23 dBm        |              |
| Maximum Short Term Input Power (1 Minute Max.) ..... | 250 Milliwatts |              |
| Maximum Peak Power (3 μsec Max.) .....               | 500 Milliwatts |              |
| Burn-in Temperature .....                            | +90° C         |              |
| Thermal Resistance (θjc)                             | Driver +15 V   | +9.3° C/Watt |
|  | Output Stage   | +5.0° C/Watt |
| Junction Temperature Rise Above Case (Tjc)           | Driver +15 V   | +61° C       |
|  | +28 V          | +70° C       |
|  | +36 V          | +90° C       |

## CCM2096

### Power Amplifier, SMA with Sequencer



Vdd1 = Driver Voltage  
Vdd2 = Output Stage +28/+36 V

DIMENSIONS ARE IN INCHES (MILLIMETERS)

**TYPICAL PERFORMANCE**

