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## **MODEL 5802007**

1.805 - 2.2 GHz 10 WATTS LINEAR POWER RF AMPLIFIER

## Solid State Broadband High Power RF Amplifier

The 5802007 is a 10 Watt broadband amplifier that covers the 1.805 – 2.2 GHz frequency range. This small and lightweight amplifier utilizes Class A/AB linear power devices that provide an excellent 3<sup>rd</sup> order intercept point, high gain, and a wide dynamic range.

Due to robust engineering and employment of the most advanced devices and components, this amplifier achieves high efficiency operation with proven reliability. Like all OPHIR<sub>RF</sub> amplifiers, the 5802007 comes with an extended warranty.

| ParameterSpecification @ 25° CElectrical1Frequency Range1.805 - 2.2 GHz2Saturated Output Power10 Watts Min.31dB Compression Power8 Watts Min.4Small Signal Gain+40 dB min5Gain Flatness± 0.75 dB max6IP3+49 dBm typical7Input VSWR2:1 max8Harmonics-20 dBc typical @ 8 Watts9Spurious Signals<-60 dBc typical @ 8 Watts10Input/Output Impedance50 Ohms nominal11DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical16Dimensions (w/ Heatsink)8.3" x 5.2" x 3.4"17Weight (w/ Heatsink)4 Lbs.18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans provided21Baseplate Temperature0° C to +50° C  |                   |                          |                               |
|---|-------------------|--------------------------|-------------------------------|
| 1Frequency Range1.805 – 2.2 GHz2Saturated Output Power10 Watts Min.31dB Compression Power8 Watts Min.4Small Signal Gain+40 dB min5Gain Flatness± 0.75 dB max6IP3+49 dBm typical7Input VSWR2:1 max8Harmonics-20 dBc typical @ 8 Watts9Spurious Signals<-60 dBc typical @ 8 Watts10Input/Output Impedance50 Ohms nominal11DC Input Current6 Amps max12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical1Connectors18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans provided  |                   | Parameter Parameter      | Specification @ 25° C         |
| 2Saturated Output Power10 Watts Min.31dB Compression Power8 Watts Min.4Small Signal Gain+40 dB min5Gain Flatness $\pm 0.75$ dB max6IP3+49 dBm typical7Input VSWR2:1 max8Harmonics-20 dBc typical @ 8 Watts9Spurious Signals<-60 dBc typical @ 8 Watts10Input/Output Impedance50 Ohms nominal11DC Input Current6 Amps max12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical1019GroundingChassis20CoolingHeatsink and fans providedEnvironmental1Sura Cooling   | <b>Electrical</b> |                          |                               |
| 31dB Compression Power8 Watts Min.4Small Signal Gain+40 dB min5Gain Flatness $\pm 0.75$ dB max6IP3+49 dBm typical7Input VSWR2:1 max8Harmonics-20 dBc typical @ 8 Watts9Spurious Signals<-60 dBc typical @ 8 Watts10Input/Output Impedance50 Ohms nominal11DC Input Current6 Amps max12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical1Umensions (w/ Heatsink)18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans providedEnvironmental  | 1                 | Frequency Range          | 1.805 – 2.2 GHz               |
| 4Small Signal Gain+40 dB min5Gain Flatness $\pm$ 0.75 dB max6IP3+49 dBm typical7Input VSWR2:1 max8Harmonics-20 dBc typical @ 8 Watts9Spurious Signals<-60 dBc typical @ 8 Watts10Input/Output Impedance50 Ohms nominal11DC Input Current6 Amps max12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical1Veight (w/ Heatsink)18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans provided  | 2                 | Saturated Output Power   | 10 Watts Min.                 |
| 5Gain Flatness± 0.75 dB max6IP3+49 dBm typical7Input VSWR2:1 max8Harmonics-20 dBc typical @ 8 Watts9Spurious Signals<-60 dBc typical @ 8 Watts10Input/Output Impedance50 Ohms nominal11DC Input Current6 Amps max12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical1Umensions (w/ Heatsink)18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans provided  | 3                 | 1dB Compression Power    | 8 Watts Min.                  |
| 6IP3+49 dBm typical7Input VSWR2:1 max8Harmonics-20 dBc typical @ 8 Watts9Spurious Signals< -60 dBc typical @ 8 Watts10Input/Output Impedance50 Ohms nominal11DC Input Current6 Amps max12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical1Veight (w/ Heatsink)18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans provided   | 4                 | Small Signal Gain        | +40 dB min                    |
| 7Input VSWR2:1 max8Harmonics-20 dBc typical @ 8 Watts9Spurious Signals< -60 dBc typical @ 8 Watts10Input/Output Impedance50 Ohms nominal11DC Input Current6 Amps max12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical116Dimensions (w/ Heatsink)8.3" x 5.2" x 3.4"17Weight (w/ Heatsink)4 Lbs.18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans provided  | 5                 | Gain Flatness            | <u>+</u> 0.75 dB max          |
| 8Harmonics-20 dBc typical @ 8 Watts9Spurious Signals< -60 dBc typical @ 8 Watts10Input/Output Impedance50 Ohms nominal11DC Input Current6 Amps max12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical16Dimensions (w/ Heatsink)8.3" x 5.2" x 3.4"17Weight (w/ Heatsink)4 Lbs.18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans provided   | 6                 | IP <sub>3</sub>          | +49 dBm typical               |
| 9Spurious Signals< -60 dBc typical @ 8 Watts  | 7                 | Input VSWR               | 2:1 max                       |
| 10Input/Output Impedance50 Ohms nominal11DC Input Current6 Amps max12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical16Dimensions (w/ Heatsink)8.3" x 5.2" x 3.4"17Weight (w/ Heatsink)4 Lbs.18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans provided  | 8                 | Harmonics                | -20 dBc typical @ 8 Watts     |
| 11DC Input Current6 Amps max12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical  | 9                 | Spurious Signals         | < -60 dBc typical @ 8 Watts   |
| 12DC Input13 VDC nominal13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical  | 10                | Input/Output Impedance   | 50 Ohms nominal               |
| 13RF Input+10 dBm max14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical16Dimensions (w/ Heatsink)8.3" x 5.2" x 3.4"17Weight (w/ Heatsink)4 Lbs.18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans providedEnvironmental  | 11                | DC Input Current         | 6 Amps max                    |
| 14RF Input Signal FormatCW/AM/FM/PM/Pulse15Class of OperationABMechanical   | 12                | DC Input                 | 13 VDC nominal                |
| 15Class of OperationABMechanical16Dimensions (w/ Heatsink)8.3" x 5.2" x 3.4"17Weight (w/ Heatsink)4 Lbs.18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans providedEnvironmental  | 13                | RF Input                 | +10 dBm max                   |
| MechanicalImage: Mechanical16Dimensions (w/ Heatsink) $8.3" \times 5.2" \times 3.4"$ 17Weight (w/ Heatsink)4 Lbs.18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans providedEnvironmentalImage: Method set of the set o  | 14                | RF Input Signal Format   | CW/AM/FM/PM/Pulse             |
| 16Dimensions (w/ Heatsink)8.3" x 5.2" x 3.4"17Weight (w/ Heatsink)4 Lbs.18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans providedEnvironmentalImage: Constant of the second                                     | 15                | Class of Operation       | AB                            |
| 17Weight (w/ Heatsink)4 Lbs.18ConnectorsSMA female19GroundingChassis20CoolingHeatsink and fans providedEnvironmentalImage: Constant of the second of the se | Mechanical        |                          |                               |
| 18     Connectors     SMA female       19     Grounding     Chassis       20     Cooling     Heatsink and fans provided       Environmental     Image: Chassis  | 16                | Dimensions (w/ Heatsink) | 8.3" x 5.2" x 3.4"            |
| 19     Grounding     Chassis       20     Cooling     Heatsink and fans provided       Environmental  | 17                | Weight (w/ Heatsink)     | 4 Lbs.                        |
| 20     Cooling     Heatsink and fans provided       Environmental   | 18                | Connectors               | SMA female                    |
| Environmental   | 19                | Grounding                | Chassis                       |
|   | 20                | Cooling                  | Heatsink and fans provided    |
| 21 Baseplate Temperature 0° C to +50° C   | Environmental     |                          |                               |
|   | 21                | Baseplate Temperature    | 0° C to +50° C                |
| 22 Operating Humidity 95% Non-condensing  | 22                | Operating Humidity       | 95% Non-condensing            |
| 23 Operating Altitude Up to 10,000' Above Sea Level   | 23                | Operating Altitude       | Up to 10,000' Above Sea Level |
| 24 Shock and Vibration Normal Truck Transport   | 24                | Shock and Vibration      | Normal Truck Transport        |

Specifications subject to change without notice

Date: