APCT-0.70-2.70-100-36V

700 – 2700 MHz / 100 Watts

Model APCT-0.70-2.70-100-36V is a gallium-nitride (GaN) solid state broadband high power amplifier designed to provide 100 W output power across its full operating bandwidth and operate from a +36V supply. This compact module utilizes high power advanced GaN on SiC transistors that provide excellent power density, high efficiency and wide dynamic range. Exceptional performance, long term reliability and high efficiency are achieved by employing advanced broadband RF matching networks and combining techniques, machined housings and qualified components. UWB TECH ISO9001 Quality Management System assures consistent performance and the highest reliability.

FEATURES

- Class AB GaN linear
- Instantaneous wide bandwidth
- Small form factor and lightweight
- Built-in temperature monitoring
- Built-in high speed switching On/Off
- 50Ω input/output impedance
- High reliability and ruggedness

APPLICATIONS

- General Purpose
- Communication Systems
- RF Frequency Jamming Systems
- ISM(Industrial, Scientific and Medical equipment)
- Radar Simulator
- EMC Testing
- Broadcasting

Electrical Specifications

[Test Condition: V_{CC} = 36V; T_C = 45°C; Z_S = Z_L = 50Ω]

Parameter	Unit	Min	Typ	Max	Notes
Operating Frequency	MHz	700	-	2700	-
Power Gain @ Pin -8dBm	dB	56	58	-	700 ~ 2700 MHz
Power Gain Flatness @ Pin -8dBm	dB_{pp}	-	±1.0	±2.0	700 ~ 2700 MHz
Output Power @ Pin -8dBm	dBm	48	50	-	700 ~ 2700 MHz
Input Return Loss	dB	-	-10	-5	-
Supply Voltage	V	36	-	-	V_{CC} (=V_{ds})
Quiescent Current Consumption	A	-	1.9	2.2	-
Current Consumption @ Pin -8dBm	A	-	8	11	CW 1-tone
Shut Down or Switch On/Off TTL Voltage **	V	0	-	0.5	On : TTL “Low” (Enable)
		2.5	5	5.5	Off : TTL “High” (50mA @ Disable)

Note

** Drain On/Off : 500ms delay

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Absolute Maximum Ratings

Parameter	Specification	Unit
Input RF Power	-6	dBm
Supply Voltage	38	V
Load Mismatch Value	3 : 1 @ all load phase	-

* Input Signal Condition : CW 1-tone

Environmental Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T_{case}	-20	-	80	°C
Operating Ambient Temperature	T_{amb}	-40	-	60	°C
Storage Temperature	T_{stg}	-50	-	110	°C
Vibration	VI	MIL-STD-810G Method 514.6 ANNEX C			

Mechanical Specifications

Parameter	Specification	Unit
Dimension	150 x 75 x 21.5	mm
RF Connectors	RF Input : SMA Female	-
	RF Output : N-Type Female	-
Interface Connector	SMW420-08	-
Cooling	Adequate Heatsink Required (Not Supplied)	-

Interface Connector Pin Description

Pin	Description	Specification
1	V_{CC}	+36VDC
2	V_{CC}	+36VDC
3	GND	Ground
4	Temp Monitor	Reference voltage : 750mV @ 25°C, Scale : 10mV/°C
5	Shut Down	Enable : TTL “Low”, Disable : TTL “High” (Low : 0~0.5V, High : 2.5~5V) Disable Status : 50mA current consumption
6	GND	Ground
7	GND	Ground
8	GND	Ground

* Interface Connector Information SMW420-08(YEONHO Electronic, Wafer), SMH420-08(YEONHO Electronic, Housing)
* Recommended Screw Torque : 8.0kgf.cm±1 using SEMS M3 22mm Bolt

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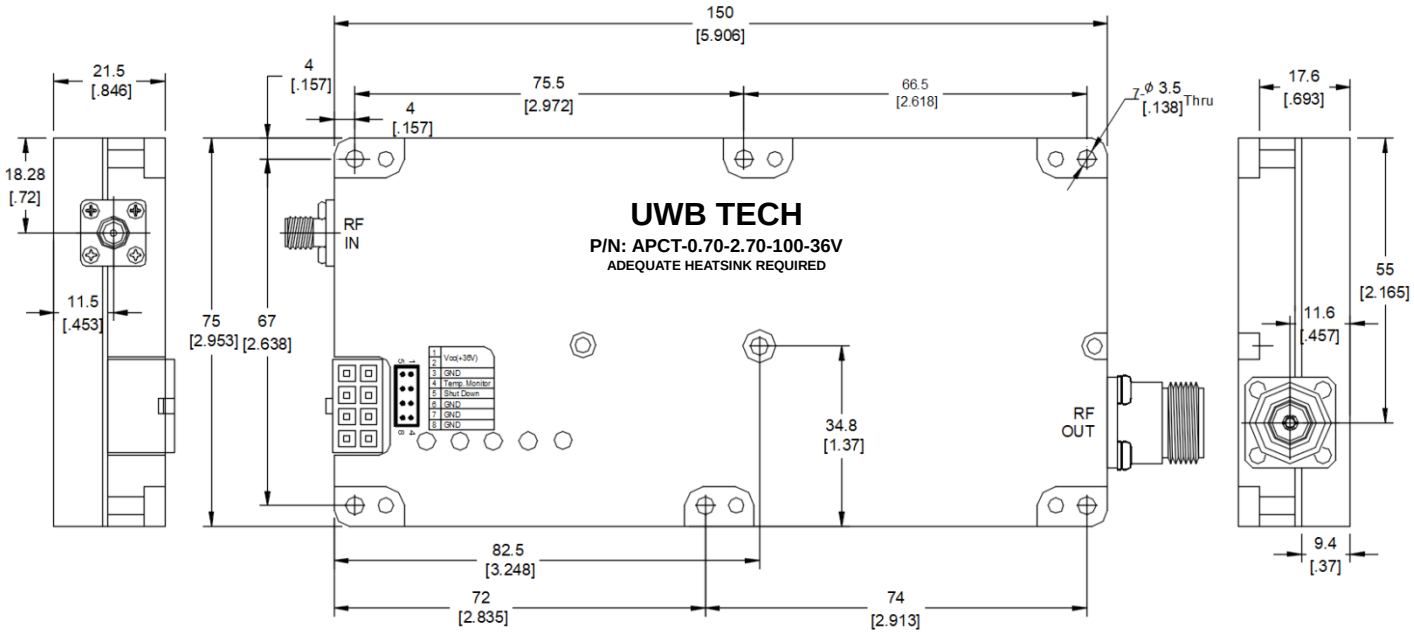
Outline Drawing

Unit: mm[inch] | Tolerance: ±0.2[.008]



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Product Ordering Information

Order Number	Description
APCT-0.70-2.70-100-36V	700-2700MHz 100W 36V Connector type GaN Solid State Broadband High Power Amplifier
SMH420-08	Interface Connector Housing with Cables

Datasheet Revision Information

Part Number	Version	Release Date	Modification	Status
APCT-0.70-2.70-100-36V	1.0	2016.June.20	-	-
-	1.1	2017.February.7	Power Gain, Quiescent Current Consumption, Outline Drawing	-
-	1.2	2017.March.3	Environmental Characteristics	-
-	1.3	2017.August.11	Electrical Specifications - Removed “On/Off Switching Time”(Gate On/Off; High speed switching)	In production

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