

APCT-1.00-3.00-100-34V
1000 – 3000 MHz / 100 Watts

Model APCT-1.00-3.00-100-34V 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 +34V 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 shut down
- 50Ω input/output impedance
- High reliability and ruggedness

APPLICATIONS

- General Purpose
- Communication System
- Electronic Warfare
- Test and Measurement

Electrical Specifications

 [Test Condition: $V_{CC} = 34V$; $T_C = 45^\circ C$; $Z_S = Z_L = 50\Omega$]

Parameter	Unit	Min	Typ	Max	Notes
Operating Frequency	MHz	1000	-	3000	-
Power Gain @ Pin -7dBm	dB	55	57	-	1000 ~ 3000 MHz
Power Gain Flatness @ Pin -7dBm	dB _{pp}	-	±1.0	±2.0	1000 ~ 3000 MHz
Output Power @ Pin -7dBm	dBm	48	50	-	1000 ~ 3000 MHz
Input Return Loss	dB	-	-10	-5	-
Supply Voltage	V	34	-	-	$V_{CC} (=V_{ds})$
Quiescent Current Consumption	A	-	1.9	2.2	-
Current Consumption @ Pin -7dBm	A	-	8	11	CW 1-tone
Shut Down 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

Absolute Maximum Ratings

Parameter	Specification	Unit
Input RF Power	-5	dBm
Supply Voltage	36	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

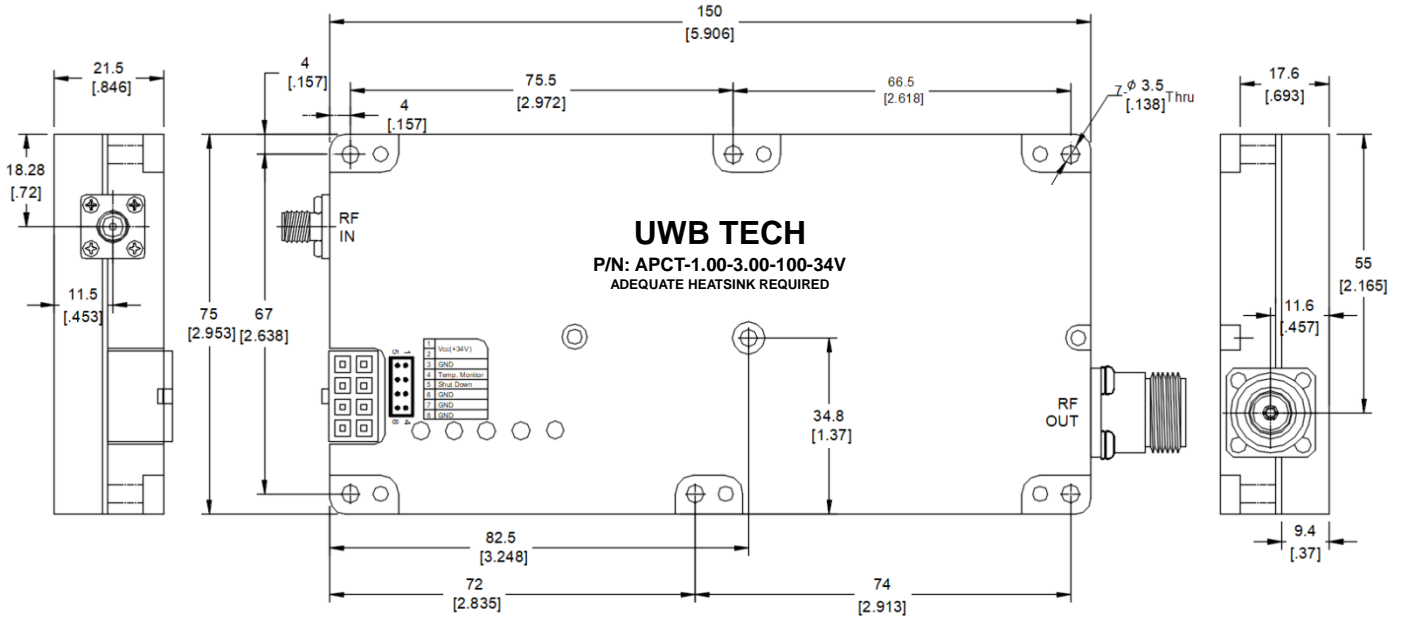
Pin	Description	Specification
1	V _{cc}	+34VDC
2	V _{cc}	+34VDC
3	GND	Ground
4	Temp Monitor	Reference voltage : 750mV @ 25°C, Scale : 10mV/°C
5	Shut Down	Enable : TTL "Low", Disable : TTL "High" (Low : 0~0.5V, High : 2.5~5V) Disable Status : 50mA current consumption
6	GND	Ground
7	GND	Ground
8	GND	Ground

* 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

Outline Drawing

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



Product Ordering Information

Order Number	Description
APCT-1.00-3.00-100-34V	1000-3000MHz 100W 34V Connector type GaN Solid State Broadband High Power Amplifier
SMH420-08	Interface Connector Housing with Cables

Datasheet Revision Information

Part Number	Version	Modification	Status
APCT-1.00-3.00-100-34V	1.0	-	In production

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