UWB TECH **SOLID STATE NARROWBAND HIGH POWER AMPLIFIER**

APCT-0.92-0.96-50-32V	920 – 960 MHz / 50 Watts

Model APCT-0.92-0.96-50-32V is a gallium-nitride (GaN) solid state narrowband high power amplifier designed to provide 50 W output power across its full operating bandwidth and operate from a +32V 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 narrowband 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 System
- Electronic Warfare
- Test and Measurement

Electrical Specifications

[Test Condition: V_{CC} = 32V; T_C = 45°C; Z_S = Z_L = 50Ω]

Parameter	Unit	Min	Typ	Max	Notes
Operating Frequency	MHz	920	-	960	-
Power Gain @ Pin 10dBm	dB	35	37	-	920 ~ 960 MHz
Power Gain Flatness @ Pin 10dBm	dB_{pp}	-	±0.5	±1.0	920 ~ 960 MHz
Output Power @ Pin 10dBm	dBm	45	47	-	920 ~ 960 MHz
Input Return Loss	dB	-	-10	-5	-
Supply Voltage	V	32	-	-	V_{CC} (=V_{ds})
Quiescent Current Consumption	A	-	1.5	2.0	-
Current Consumption @ Pin 10dBm	A	-	4.5	6.0	CW 1-tone
On/Off Switching Time **	uS	-	2	5	On : TTL “Low”
					Off : TTL “High” (50mA @ Disable)
Shut Down TTL Voltage ***	V	0	-	0.5	On : TTL “Low” (Enable)
		2.5	5	5.5	Off : TTL “High” (50mA @ Disable)

Note

** Gate On/Off : High speed switching

*** Drain On/Off : 500ms delay

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Absolute Maximum Ratings

Parameter	Specification	Unit
Input RF Power	13	dBm
Supply Voltage	35	V
Load Mismatch Value	5 : 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

Mechanical Specifications

Parameter	Specification	Unit
Dimension	92 x 50.8 x 16.6	mm
Weight	150	g
RF Connectors	RF Input : SMA Female	-
	RF Output : SMA Female	-
Interface Connector	SMW200-08	-
Cooling	Adequate Heatsink Required (Not Supplied)	-

Interface Connector Pin Description

Pin	Description	Specification
1	V_{CC}	+32VDC
2	V_{CC}	+32VDC
3	V_{CC}	+32VDC
4	GND	Ground
5	GND	Ground
6	Switch ON/OFF	Enable : TTL “Low”, Disable : TTL “High” (Low : 0~0.5V, High : 2.5~5V) Disable Status : 50mA current consumption
7	Shut Down	Enable : TTL “Low”, Disable : TTL “High” (Low : 0~0.5V, High : 2.5~5V) Disable Status : 50mA current consumption
8	Temp Monitor	Reference voltage : 750mV @ 25°C, Scale : 10mV/°C

* Interface Connector Information SMW200-08(YEONHO Electronic, Wafer), SMH200-08(YEONHO Electronic, Housing)
* Recommended Screw Torque : 8.0kgf.cm±1 using SEMS M3 14mm Bolt

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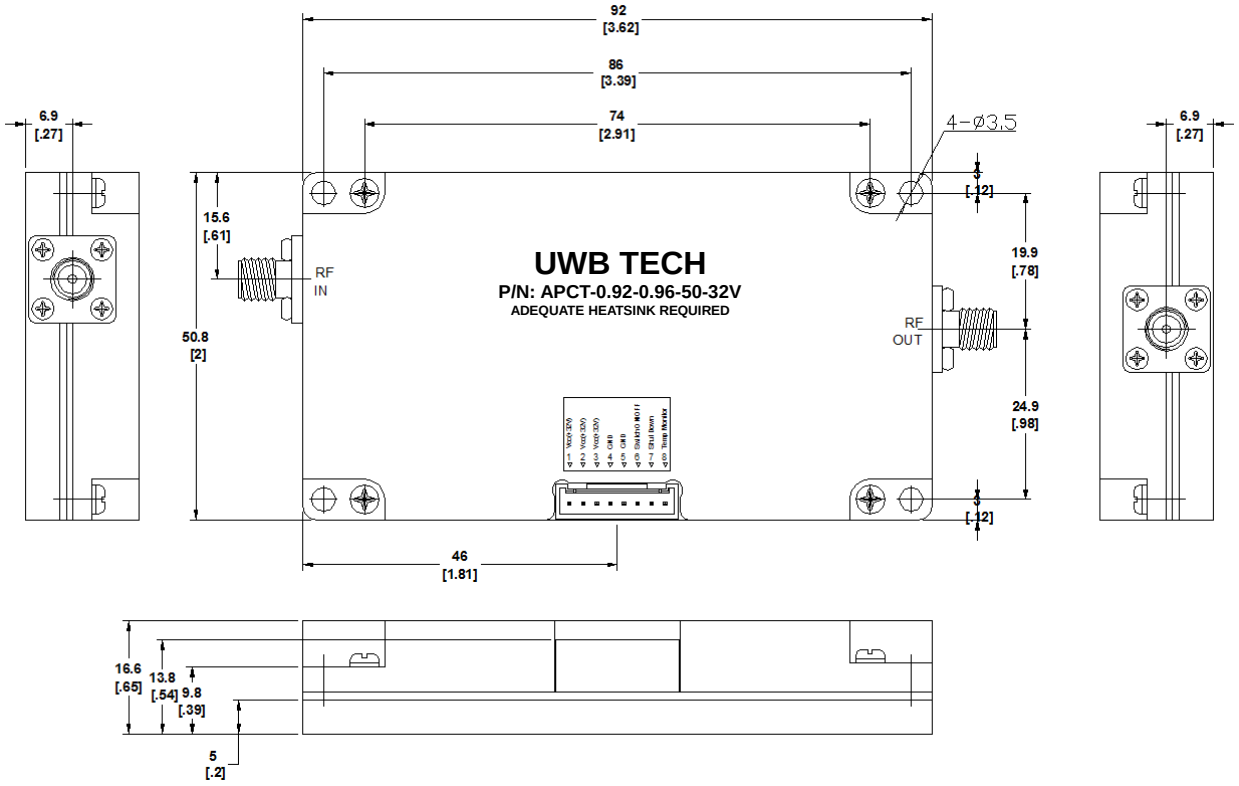
Outline Drawing

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



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Product Ordering Information

Order Number	Description
APCT-0.92-0.96-50-32V	920-960MHz 50W 32V SMA Connector type GaN Solid State Broadband High Power Amplifier
SMH200-08	Interface Connector Housing with Cables

Datasheet Revision Information

Part Number	Version	Modification	Status
APCT-0.92-0.96-50-32V	1.0	-	-
-	1.1	Applications	In production

Important Notice

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