APCT-0.70-3.00-60-28V | 700 – 3000 MHz / 60 Watts

Model APCT-0.70-3.00-60-28V is a gallium-nitride (GaN) solid state broadband high power amplifier designed to provide 60 W output power across its full operating bandwidth and operate from a +28V 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 System
- Electronic Warfare
- Test and Measurement

Electrical Specifications

[Test Condition: V_{CC} = 28V; T_C = 45°C; Z_S = Z_L = 50Ω]

Parameter	Unit	Min	Typ	Max	Notes
Operating Frequency	MHz	700	-	3000	-
Power Gain @ Pin -7dBm	dB	54	55	-	700 ~ 3000 MHz
Power Gain Flatness @ Pin -7dBm	dB_{pp}	-	±1.0	±2.0	700 ~ 3000 MHz
Output Power @ Pin -7dBm	dBm	47	48	-	700 ~ 3000 MHz
Input Return Loss	dB	-	-10	-5	-
Supply Voltage	V	28	-	-	V_{CC} (=V_{ds})
Quiescent Current Consumption	A	-	2.0	2.5	-
Current Consumption @ Pin -7dBm	A	-	7	10	CW 1-tone
On/Off Switching Time **	uS	-	2	5	On : TTL “Low”
					Off : TTL “High” (50mA @ Disable)
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

** Gate On/Off : High speed switching

*** Drain On/Off : 500ms delay

UWB TECH
sales@uwb-tech.com
www.uwb-tech.com

Absolute Maximum Ratings

Parameter	Specification	Unit
Input RF Power	-5	dBm
Supply Voltage	35	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

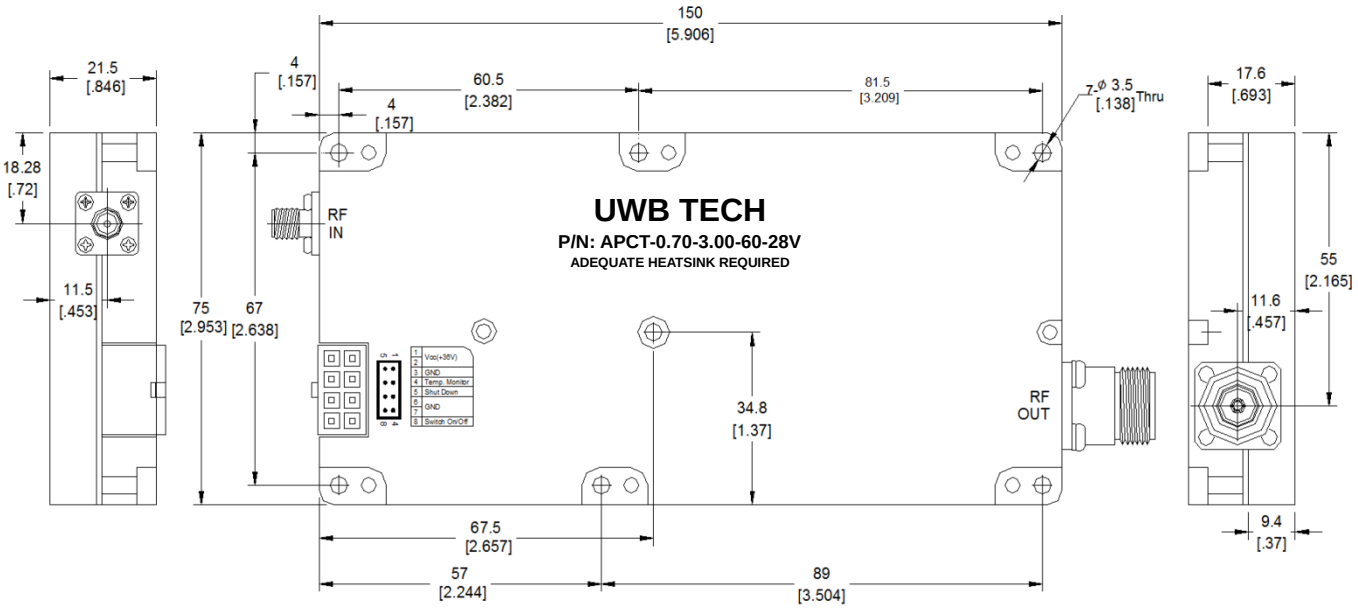
Pin	Description	Specification
1	V_{CC}	+28VDC
2	V_{CC}	+28VDC
3	GND	Ground
4	Temp Monitor	Reference voltage : 750mV @ 25°C, Scale : 10mV/°C
5	Shut Down	Enable : TTL “Low”, Disable : TTL “High” (Low : 0~0.5V, High : 2.5~5V) Disable Status : 50mA current consumption
6	GND	Ground
7	GND	Ground
8	Switch ON/OFF	Enable : TTL “Low”, Disable : TTL “High” (Low : 0~0.5V, High : 2.5~5V) Disable Status : 50mA current consumption

* 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

UWB TECH
sales@uwb-tech.com
www.uwb-tech.com

Outline Drawing

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



UWB TECH
sales@uwb-tech.com
www.uwb-tech.com

Product Ordering Information

Order Number	Description
APCT-0.70-3.00-60-28V	700-3000MHz 60W 28V 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-0.70-3.00-60-28V	1.0	-	-
-	1.1	Electrical Specifications	-
-	1.2	Electrical Specifications, Environmental Characteristics	-
-	1.3	Applications	In production

Important Notice

Specifications are subject to change without notice. UWB TECH believes the information contained within this data sheet to be accurate and reliable. However, UWB TECH assumes no responsibility or liability whatsoever for any of the information contained herein. The information contained herein is provided “AS IS, WHERE IS” and with all faults, and the entire risk associated with such information is entirely with the user. Customers should obtain and verify the latest relevant information before placing orders for UWB TECH products. All operating parameters should be validated by customer’s technical experts for each application. UWB TECH products are not designed, intended or authorized for use as components or amplifiers in applications intended for surgical implant into the body or to support or sustain life, in applications in which the failure of the UWB TECH product could result in personal injury or death or in applications for planning, construction, maintenance or direct operation of a nuclear facility. Customers shall comply fully with all export administration and control laws and regulations of the Republic of Korea, the U.S. government and/or other national or international (e.g. UN) laws and regulations as may be applicable to the export, re-export, resale or other disposition of any products purchased from UWB TECH.

For more information, please contact:

UWB TECH

sales@uwb-tech.com