



Solid State Broadband High Power Amplifier

APCT-0.50-2.00-200-36V

500 – 2000 MHz / 200 Watts

Model APCT-0.50-2.00-200-36V is a gallium-nitride (GaN) solid state broadband high power amplifier designed to provide 200 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. APC Technologies ISO9001 Quality Management System assures consistent performance and the highest reliability.

Features

- Solid-state Class AB linear design
- Instantaneous broadband
- Built-in temperature monitoring
- Built-in high speed switching On/Off
- 50 ohm 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 @ $V_{CC} = 36V$; $T_C = 45^\circ C$; $Z_S = Z_L = 50\Omega$

Parameter	Min	Typ	Max	Unit	Condition
Operating Frequency	500	-	2000	MHz	-
Power Gain @ Pin -5dBm	56	58	-	dB	500 ~ 2000 MHz
Power Gain Flatness @ Pin -5dBm	-	±1.0	±2.0	dBpp	500 ~ 2000 MHz
Output Power @ Pin -5dBm	51	53	-	dBm	500 ~ 2000 MHz
Input Return Loss	-	-10	-5	dB	-
Supply Voltage	36	-	-	V	$V_{CC} (=V_{ds})$
Quiescent Current Consumption	-	3.5	5.5	A	-
Current Consumption @ Pin -5dBm	-	20.0	25.0	A	CW 1-tone
On/Off Switching Time **	uS	-	2	5	On : TTL "Low"
					Off : TTL "High" (100mA @ Disable)
Shut Down TTL Voltage ***	0	-	0.5	V	ON: TTL "Low" (Enable)
	2.5	5	5.5		OFF: TTL "High" (100mA @ Disable)

Note

** Gate On/Off : High speed switching

*** Drain On/Off : 500ms delay

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Mechanical Specifications

Parameter	Value	Unit
Dimension	195(L) x 131(W) x 30(H)	mm
Weight	1156	g
RF Connectors	RF Input : SMA Female	-
	RF Output : N-Type Female	-
DC Connector	C7W2/D-SUB/Male type	-
Cooling	Adequate Heatsink Required (Not Supplied)	-

Absolute Maximum Ratings

Parameter	Parameter	Unit
Input RF Power	-2	dBm
Supply Voltage	38	V
Load Mismatch Value	3 : 1 @ all load phase	-

* Input Signal Condition : CW 1-tone

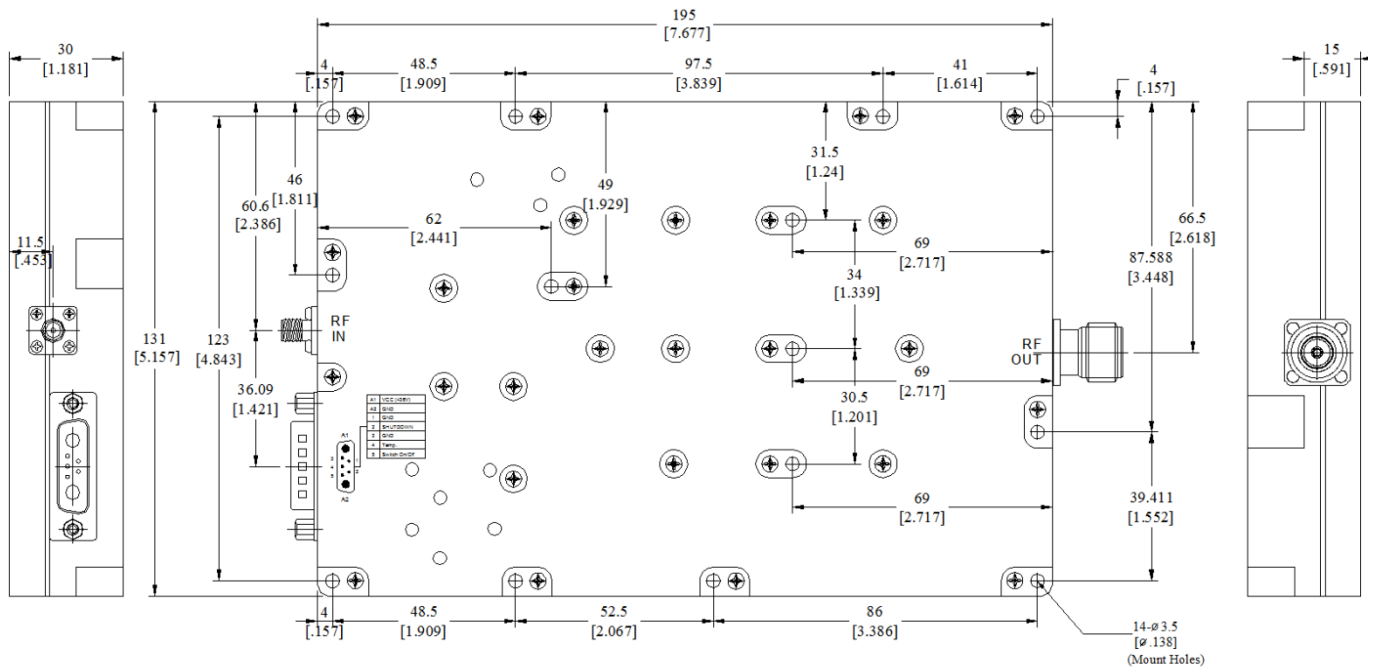
Environmental Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T _c	-10	-	70	°C
Storage Temperature	T _{stg}	-40	-	100	°C
Vibration	VI	MIL-STD-810G Method 514.6 ANNEX C			

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Outline Drawing

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



DC Connector Description

Pin #	Description	Specifications
A1	V _{cc}	+36VDC
A2	GND	Ground
1	GND	Ground
2	Shut Down	Enable : TTL "Low", Disable : TTL "High" (Low : 0~0.5V, High : 2.5~5V) Disable Status : 100mA current consumption
3	GND	Ground
4	Temperature Monitor	Reference voltage : 750mV @ 25°C, Scale : 10mV/°C
5	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 3007W2PAT75N20X(CONEC)

* Recommended Screw Torque : 8.0kgf.cm \pm 1 using SEMS M3 20mm Bolt



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Product Ordering Information

Order Number	Description	Unit of Measure
APCT-0.50-2.00-200-36V	500-2000MHz 200W GaN Solid State Broadband High Power Amplifier	Each
3007W2PAT75N20X	Interface Connector Housing with Cables	Each

Datasheet Revision Information

Part Number	Version	Release Date	Modification	Status
APCT-0.50-2.00-200-36V	1.0	2016.Sept.05	-	-

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