

Solid State Broadband High Power Amplifier

APCS-0.03-0.40-20-28V

30 – 400 MHz / 20 Watts

Model APCS-0.03-0.40-20-28V is a gallium-nitride (GaN) solid state broadband high power amplifier designed to provide 20 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. APC Technologies ISO9001 Quality Management System assures consistent performance and the highest reliability.

Features

- Solid-state Class AB linear design
- Instantaneous broadband
- Small form factor and lightweight
- 50 ohm input/output impedance
- High reliability and ruggedness

Applications

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

Electrical Specifications @ $V_{CC} = 28V$; $T_C = 45^\circ C$; $Z_S = Z_L = 50\Omega$

Parameter	Min	Typ	Max	Unit	Condition
Operating Frequency	30	-	400	MHz	-
Power Gain @ Pin 5dBm	37	38	-	dB	30 ~ 400 MHz
Power Gain Flatness @ Pin 5dBm	-	± 1.0	± 2.0	dBpp	30 ~ 400 MHz
Output Power @ Pin 5dBm	42	43	-	dBm	30 ~ 400 MHz
Input Return Loss	-	-10	-5	dB	-
Supply Voltage	28	-	-	V	$V_{CC} (=V_{ds})$
Quiescent Current Consumption	-	1.0	1.5	A	-
Current Consumption @ Pin 5dBm	-	2.0	3.0	A	CW 1-tone

Solid State Broadband High Power Amplifier

Mechanical Specifications

Parameter	Value	Unit
Dimension	53.4(L) x 25.4(W) x 12.7(H)	mm
RF Connectors	RF Input : Terminal Pin	-
	RF Output : Terminal Pin	-
DC Connector	Terminal Pin	-
Cooling	Adequate Heatsink Required (Not Supplied)	-

Absolute Maximum Ratings

Parameter	Parameter	Unit
Input RF Power	8	dBm
Supply Voltage	32	V
Load Mismatch Value	3 : 1 @ all load phase	-

* Input Signal Condition : CW 1-tone

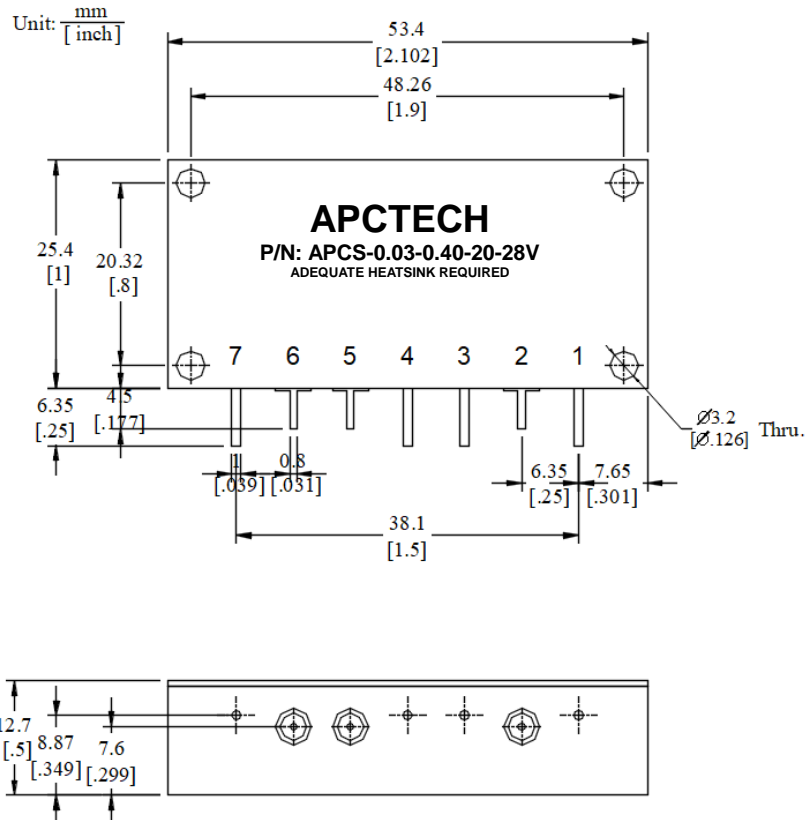
Environmental Characteristics

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

Solid State Broadband High Power Amplifier

Outline Drawing

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



DC Connector Description

Pin #	Description	Specifications
1	GND	Ground
2	RF IN	RF INPUT
3	GND	Ground
4	GND	Ground
5	V _{CC}	+28VDC
6	RF OUT	RF OUTPUT
7	GND	Ground

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



Solid State Broadband High Power Amplifier

Product Ordering Information

Order Number	Description	Unit of Measure
APCS-0.03-0.40-20-28V	30-400MHz 20W GaN Solid State Broadband High Power Amplifier	Each

Datasheet Revision Information

Part Number	Version	Release Date	Modification	Status
APCS-0.03-0.40-20-28V	0.9	2017.August.22	-	Preliminary

Important Notice

Specifications are subject to change without notice. APC Technologies believes the information contained within this data sheet to be accurate and reliable. However, APC Technologies 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 APC Technologies products. All operating parameters should be validated by customer's technical experts for each application. APC Technologies 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 APC Technologies product could result in personal injury or death or in applications for planning, construction, maintenance or direct operation of a nuclear facility.

For more information, please contact:

APC Technologies
910, BST, Neta Ji Subhash Place
Pitampura, New Delhi – 110034, INDIA
sales@apctechnologies.in
91.124.42250422, 91.11.42267111