

Solid State Broadband High Power Amplifier

APCS-0.03-0.40-50-28V

30 – 400 MHz / 50 Watts

Model APCS-0.03-0.40-50-28V is a gallium-nitride (GaN) solid state broadband high power amplifier designed to provide 50 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 31dBm	15.5	17	-	dB	30 ~ 400 MHz
Power Gain Flatness @ Pin 31dBm	-	± 1.0	± 2.0	dBpp	30 ~ 400 MHz
Output Power @ Pin 31dBm	46.5	47.5	-	dBm	30 ~ 100 MHz
	47	48	-		100 ~ 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 31dBm	-	4.0	5.5	A	CW 1-tone

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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	33	dBm
Supply Voltage	32	V
Load Mismatch Value	3 : 1 @ all load phase	-

* Input Signal Condition : CW 1-tone

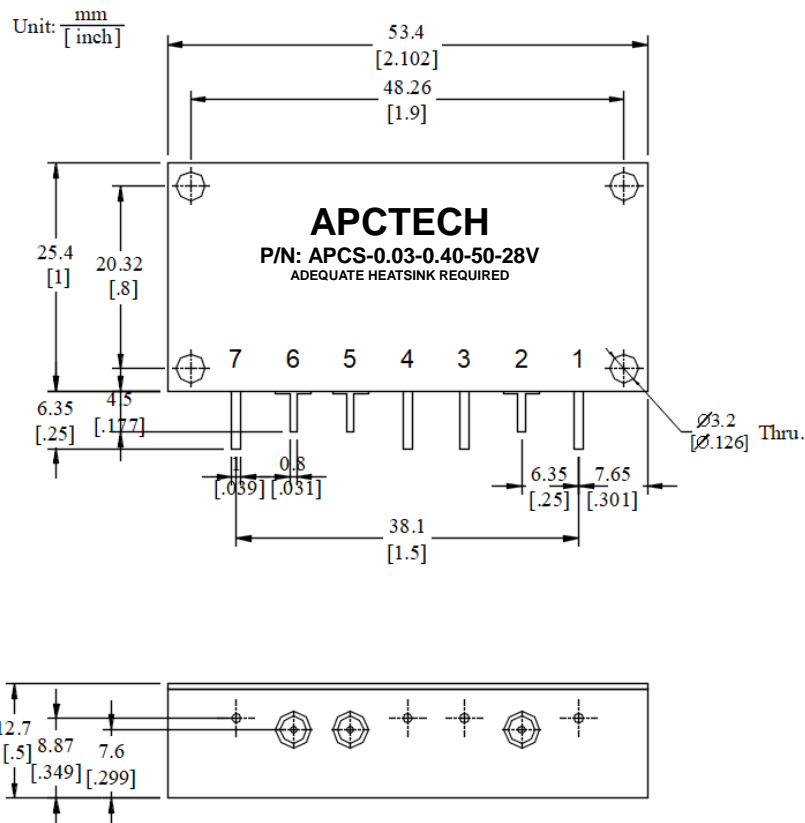
Environmental Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T _{case}	-20	-	70	°C
Operating Ambient Temperature	T _{amb}	-40	-	60	°C
Storage Temperature	T _{stg}	-50	-	110	°C

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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



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Product Ordering Information

Order Number	Description	Unit of Measure
APCS-0.03-0.40-50-28V	30-400MHz 50W GaN Solid State Broadband High Power Amplifier	Each

Datasheet Revision Information

Part Number	Version	Release Date	Modification	Status
APCS-0.03-0.40-50-28V	0.9	2017.August.22	-	Preliminary

Important Notice

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