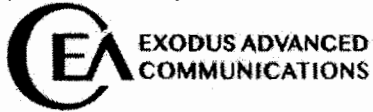


Поз. 1

Информацията в този документ е заличена на основание чл. 37 от ЗОП



AMP2128 SOLID STATE HIGH POWER AMPLIFIER

FEATURES

Class A/AB linear design
High power advanced GaN devices
Instantaneous ultra-wide bandwidth
Designed for EMI/RFI, lab, and general communication applications
Gain Control/Step control up to a 20-25dB range
Built-in protection circuits, with extensive monitoring
All remote-control platforms included
High efficiency, with unprecedented reliability and ruggedness
Suitable for linear CW and composite modulations AM, FM, Pulse standards & applications



*Забележка: снимката е илюстративна и уредът, който ще бъде доставен, не включва опцията "Digital Monitor & Control" и може да се отличава по външен вид и размери от този на снимката

ELECTRICAL SPECIFICATIONS

Parameter	Specification	Notes
Operating Frequency Range	0.7 - 6.0 GHz	CW
Power Output @ Psat	125 Watt Min	200W Typ
Power output @ P1dB GCP	100 Watt Min	
Power Gain	52 dB Min	
Power Gain Flatness	4 dB p-p Max	Constant input power
Gain Adjustment Range	20 dB Min	
Input / Output Return Loss	10 dB Min	50 Ohms Typ
2-Tone Intermodulation (IMD)	-30 dBc Typ	42dBm/Tone, $\Delta = 1\text{MHz}$
Harmonics	-20 dBc Typ	At rated output
Spurious	-60 dBc Max	Non-harmonic
Operating Voltage	180 - 240 VAC	
Power Consumption	1200 Watt Max	At rated output
Input Power Protection	+8 dBm Max	<10 Sec without damage
Load VSWR Protection *	$\infty : 1$	Fold-back protection >5:1

* 100% protection, will operate without damage or oscillation with any magnitude and phase of source and load impedance.

ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification	Notes
Operating Ambient Temperature	0 to +50°C	
Storage Temperature	-40 to +85 °C	
Relative Humidity	5 to 95 %	Non-condensation

MECHANICAL SPECIFICATIONS

Parameter	Specification	Notes
Dimensions W x H x D	430 x 222 x 560 mm	5U
Weight	35 Kg. Max	
RF Connectors In/Out/RF Sample	Type-N Female	Front Panel Standard
AC Power	IEC 60320-C14 / 9-Pin D-Sub	Or equivalent
Cooling	Built in Fan Cooling	Variable speed
OPTIONAL: Digital Monitor & Control FWD, REV, VSWR, GAIN, ALC, V & I, TEMP	Ethernet RJ-45 TCP/IP, RS422/485 Optional GPIB Interface	Remote Bluetooth application

ACCEPTANCE TEST RESULTS

Date	Job No.	Model	Serial No.	Frequency	Output Power	
2018-02-06	1760018	AMP2128	10001	0.7 – 6.0 GHz	100W P1	52dB
ower amplifier final test		Test	Verify	QA	Approve	
		JR	JR	HS	N/A	

ELECTRICAL SPECIFICATIONS: -20C , 25C , 75C

No.	PARAMETER	SPECIFICATONS	TEST RESULTS (GHz)					NOTES	P/F
			0.7	2.01	3.51	5.14	6.0		
1	Operating Frequency - Plot 3dB BW	0.7 – 6.0 GHz	x	x	x	x	x	Plot 1	P
2	Output Power @ Rated Input	125W Min	314.1	244.9	351.6	196.3	229.1	Plot 2 Record	P
3	Output Power @ 1dB G.C.P.	100W Min	224.4	146.2	255.9	160.3	206.5	Plot 1 Record	P
4	Power Gain	52dB Min	x	x	x	x	x	Plot 2	P
5	Small Signal Gain Flatness	6dB p-p Max	x	x	x	x	x	Plot 1, 2	P
6	Input Power Flatness at Rated Pout	Ref. Only(dBm)	-10.6	-5.9	-8.3	-4.1	-4.5	Record	P
7	Power Gain Flatness @ rated input power	4dB p-p Max	54.97	53.89	55.46	52.93	53.60	Plot 2	P
8	Input Return Loss	S11: 10dB Min	x	x	x	x	x	Plot 1, 2	P
9	Inter-modulation Distortion (3rd Order Intercept) 2-tones @ 42dBm/Tone, Δ = 1MHz	IMD: -30dBc Typ	32.84	34.48	35.39	28.86	29.65	Record	P
		IP3: +57dBm Typ	58.42	59.24	59.70	56.43	56.83	Calculated	P
10	Harmonics @ 125W output power	2 nd : -20dBc Typ	21.92	28.07	62.12	>70	61.84	Record	P
11		3 rd : -20dBc Typ	36.23	41.37	>70	>70	>70		P
12	Spurious Signals (Non-harmonics)	-60dBc Max	>70	>70	>70	>70	>70	Record	P
13	Noise Figure	Ref. Only(dB)	13.23	12.74	12.91	14.69	15.35	Record	P
14	Switching Time, 1KHz TTL, P _{IN} = -10dBm	5μSec Max	T _{ON} : N/A					Record	N/A
			T _{OFF} : N/A						
15	Operating Voltage	180 - 240VAC	220					Verify	P
16	Power Consumption @ Rated Power	1800Watts Max	1205.6	1342.0	1223.2	1284.8	1249.6	Record	P
17	Idle Power Consumption	Ref. Only(W)	1313.4					Record	P
18	Power Consumption @ Shutdown	Ref. Only(W)	209.0					Record	P
19	Gain Adjustment Range	20dB	x	x	x	x	x	Plot 3	P
20	Input Overdrive @ +8dBm Max	Pout W	264.9	309.0	393.6	243.2	283.1	Record	P
21		Pd W	1328.8	1854.6	1581.8	1562.0	1564.2		
22	Over Temperature Alarm	70 - 75°C	OK					Verify	P

D-SUB CONNECTOR PIN ASSIGNMENT

Pin	Function	Test Results
1, 2	N/A	N/A
3	CURRENT MONITOR 1: I _b @ 10mV/100mA	1.825V @ I _b =18.25A
4	TEMP. MONITOR 1: 10mV/°C + 500mV	0.975Vdc = 47.5°C @ Room Temp
5	SHUT DOWN	TTL High
6	CURRENT MONITOR 2: I _b @ 10mV/100mA	1.809V @ I _b =18.09A
7	TEMP. MONITOR 2: 10mV/°C + 500mV	0.978Vdc = 47.8°C @ Room Temp
8, 9, 10, 11, 12, 13, 14	N/A	N/A
9	GND	Ground

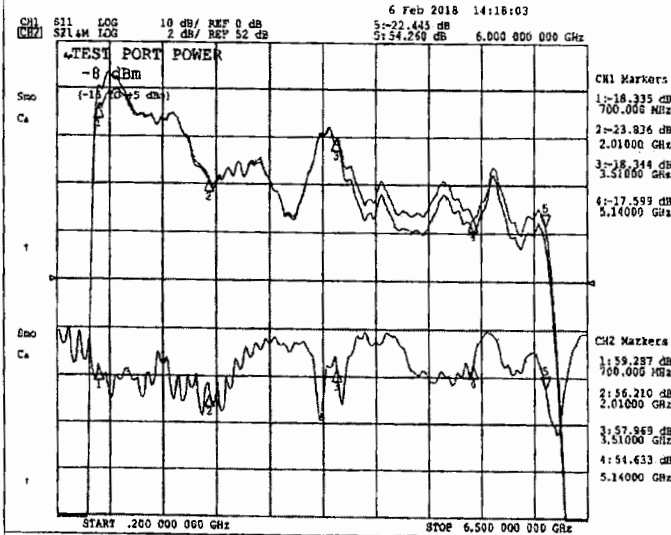
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ACCEPTANCE TEST RESULTS

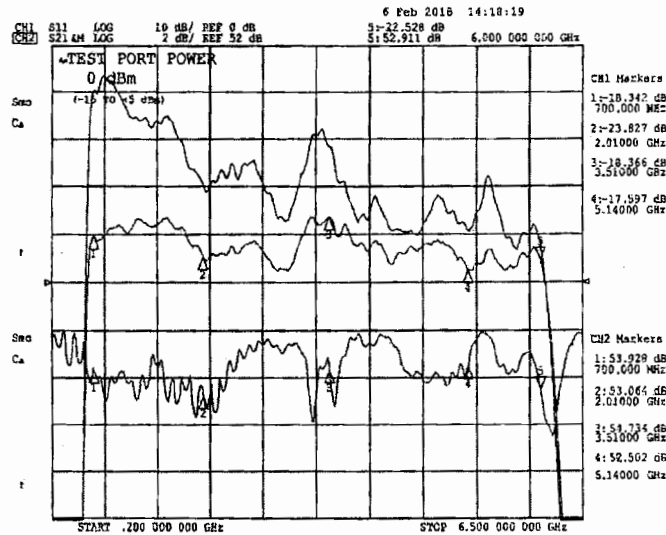
Date	Job No.	Model	Serial No.	Frequency	Output P
2018-02-06	1760018	AMP2128	10001	0.7 - 6.0 GHz	100W P1

DATA PLOTS

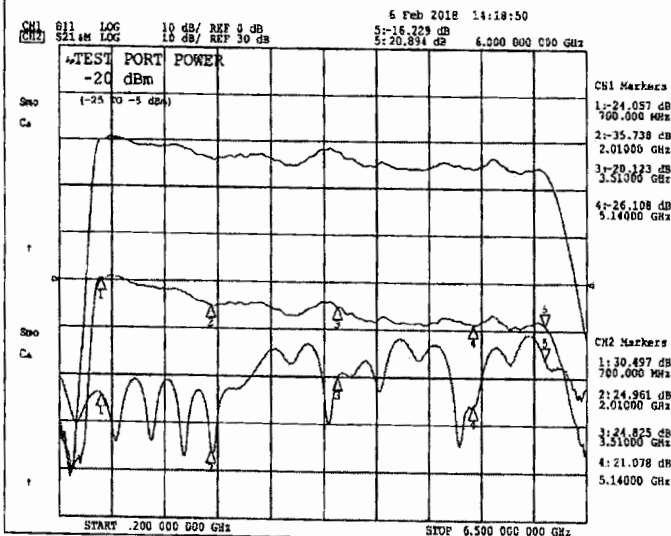
Plot 1. Small Signal Gain and P_{1dB}
 Top Curve(Color-Purple): Small Signal Gain @ $P_{in} = -20dBm$
 Middle Curve(Color-Green): Power Gain @ P_{1dB} , $P_{in} = -8dBm$
Reference: 52dB, 2dB/div.
 Bottom Curve(Color-Red): Input Return Loss
Reference: 0dB, 10dB/div.



Plot 2. Small Signal Gain and P_{SAT}
 Top Curve(Color-Purple): Small Signal Gain @ $P_{in} = -20dBm$
 Middle Curve(Color-Green): Power Gain @ P_{SAT} , $P_{in} = 0dBm$
Reference: 52dB, 2dB/div.
 Bottom Curve(Color-Red): Input Return Loss
Reference: 0dB, 10dB/div.



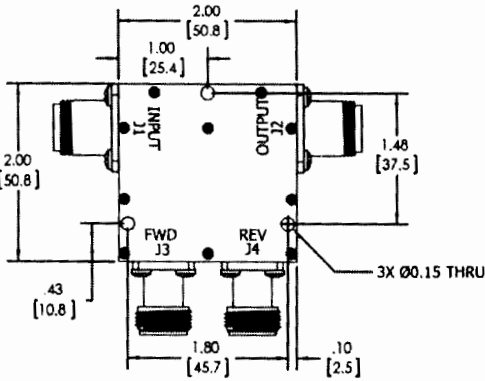
Plot 3. Gain Adjustment Range
 Top Curve(Color-Purple): Max Power Gain @ $P_{in} = -20dBm$
 Middle Curve(Color-Green): Min Power Gain $P_{in} = -20dBm$
Reference: 30dB, 10dB/div.
 Bottom Curve(Color-Red): Input Return Loss
Reference: 0dB, 10dB/div.

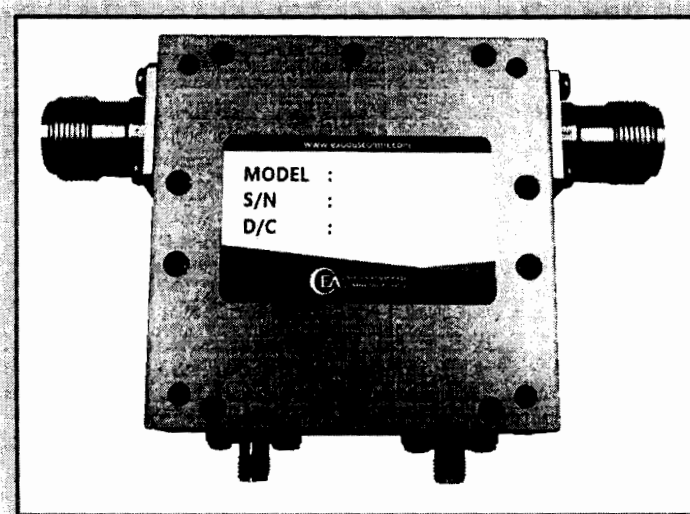


High Power Dual-Directional Coupler
N-Female Thru-Connections
or N-Female, Coupled ports (optional)

Информацията в този документ е заличена на основание чл. 37 от ЗОП

00 MHz! The Exodus Dual-Directional 40dB or 50dB Broadband Dual Directional Coupler, is rated at 200 W CW, and offers excellent electrical performance. This compact design, measuring just 2 x 2 x 1.06", operates with less than 0.2 dB of insertion loss, provides tight coupling of ± 1.0 dB max for the broad frequency range. It is designed and Rated Mismatch Tolerant, the EDDC-700M-6G-200N will tolerate a full reflection, at rated power. High Power, Excellent Efficiency, and Bandwidth!

Dual Directional Coupler	Exodus Model:	EDDC-700M-6G-200N-XX
 <p>Technical drawing of the Dual Directional Coupler showing dimensions and port labels. Dimensions include 2.00 [50.8], 1.00 [25.4], 1.48 [37.5], 2.00 [50.8], .43 [10.8], 1.80 [45.7], .10 [2.5], and 3X Ø.015 THRU. Port labels include INPUT J1, OUTPUT J2, FWD J3, and REV J4.</p>	Frequency Range:	700MHz – 6.0GHz
	Rated Power:	200 Watts CW (200W infinite VSWR)
	Coupling Value:	40 dB or 50 dB (XX) (Optional)
	IL:	0.2dB maximum
	VSWR:	1.30:1 maximum
	Flatness:	+/-1.0 dB maximum
	Directivity:	19 -20 dB nominal; 15dB min
	Connector:	Mainline, Type N Female Coupled Ports, SMA Female
	Dimensions:	2.0" x 2.0" x 1.0" (see outline to the left)
		X = denotes the coupling value – please specify at the time of order. Thank you!



The Exodus 4-Port Dual Directional Coupler employs two, 3-Port Uni-Directional Couplers, internally connected, in tandem, providing measurement of both forward and reverse power. Ideal for simultaneously monitoring a system's forward and reverse power and for reflectometer measurements. Unlike the Bi-Directional Coupler, the directivity of the Dual Directional Coupler is unaffected by the loads on the coupled ports.