



Broadband High Power Amplifiers

FEATURES:

- ❖ Coverage From 0.1 to 46.0 GHz (Octave/Multi-octave)
- ❖ Up To 50 Watt Output Power (@1dB Compression Point)
- ❖ Single Bias (+15VDC) Power Supply
- ❖ Compact Thin-Film Construction
- ❖ Economically Priced

APPLICATIONS:

- ❖ General High Power Laboratory RF Sources.
- ❖ Output Amplifiers in test Equipment (ATE & AGE)
- ❖ Driver Amplifiers in RF Distribution Networks
- ❖ Driver Amplifiers for TWTAs



CBP Series

DESCRIPTION:

Cernex's CBP series amplifiers are designed for use in a wide range of general purpose applications such as laboratory test equipment, instrumentation and other applications requiring high power output. Reliable operation is achieved using rugged stripline circuit construction with selected GaAs FET devices.

SPECIFICATIONS:

Model Number	Frequency Range (GHz)	Gain (dB) Min.	SS Flatness (+/-dB) Max.	NF (dB) Max.	P1dB (dBm) Min.	IP3 (dB m) Typ.	VSWR In/Out Max.	Current @ 15 VDC (A) Typ.	Case Type
CBPU1U52452	0.1-0.5	24	1.00	10	52	61	2:1	28**√	8.5x7.8x1.1
CBPU1U52454	0.1-0.5	24	1.50	10	54	62	2:1	30 **√	8.5x7.8x1.1
CBPU1U55047	0.1-0.5	50	1.50	10	47.5	58	2:1	12**√	6.4x3.4x1.1
CBPU1U55253	0.1-0.5	52	2.00	10	53	63	2:1(typ)	40 **√	Htsnk assembly
CBPU2014646	0.2-1.0	46	2.0	10	46	55	2:1	8.0**√	6.4x3.4x1.1
CBPU4014037	0.4-1.0	40	1.50	10	37	*	2:1	2.0 **√	6.0x3.0x1.0
CBPU4014440	0.4-1.0	44	2.0	10	40	52	2:1	6.5(Max)**√	6.4x3.4x1.1
CBPU4014644	0.4-1.0	46	1.50	10	44.5	57	2:1	8(Max) **√	6.4x3.4x1.1
CBPU4014036	0.4-1.2	40	1.50	10	36.5	47	2:1	2.0 **√	6.0x3.0x1.0
CBPU5013035	0.5-1.0	30	2.00	8	35	42	2:1	3.0√	SN8▲
CBPU5013537	0.5-1.0	35	2.25	8	37	44	2:1	4.5√	SN8/▲
CBPU5014040	0.5-1.0	40	2.50	8	40	47	2:1	7.0√	DN8
CBPU5014043	0.5-1.0	40	3.00	8	43	50	2:1	10√	QNC13
CBPU5015049	0.5-1.0	50	1.50	10	49	61	2:1	15(Max)**√	9.8x6.4x1.0
CBPU5015251	0.5-1.0	52	1.50	10	51.75	61	2:1	30(Max)**√	Htsnk assembly
CBPU5015453	0.5-1.0	54	1.50	10	53.25	64	2:1	36(Max)**√	19.5x11.13x5.13
CBPU5023035	0.5-2.0	30	3.00	8	35	42	2.5:1	3.0√	SN8▲
CBPU5023533	0.5-2.0	35	2.0	5	33	40	2:1	2.0√	SN8▲
CBPU5023537	0.5-2.0	35	3.50	8	37	44	2.5:1	4.5√	DN8



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CBPU5024040	0.5-2.0	40	4.00	8	40	47	2.5:1	7.0√	QNC13
CBPU5024042	0.5-2.0	40	4.00	8	42	49	2.5:1	10√	QNC13
CBPU8024040	0.8-2.0	40	1.50	10	40	51	2:1	5**√	6.8x2.63x0.75
CBPU8024240	0.8-2.5	42	1.50	10	40	52	2:1	6**√	8.5x3.1x0.72
CBPU8024443	0.8-2.5	44	1.50	10	43	55	2:1	11(Max)**√	11.1x5.0x1.0
CBPU8024444	0.8-2.5	44	1.50	10	44	55	2:1	12(Max)**√	11.1x5.0x1.0
CBPU8033032	0.8-3.0	30	1.50	10	32	*	2:1	1.0(Max)**√	3.11x2.32x0.66
CBPU8034037	0.8-3.0	40	1.50	10	37.5	49	2:1	4**√	8.5x3.1x0.72
CBPU8034443	0.8-3.0	44	1.50	10	43	53	2:1	15(Max)**√	11x5.0x1.0
CBPU8033030	0.8-4.2	30	1.50	10	30	*	2:1	1.5(Max)**√	3.11x2.32x0.66
CBPU8043837	0.8-4.2	38	1.50	10	37.5	48	2:1	4**√	8.5x3.1x0.72
CBPU8044240	0.8-4.2	42	2.00	10	40	55	2:1	8**√	11x5.0x1.0
CBPU8044443	0.8-4.2	44	2.00	10	43	53	2:1	16**√	*
CBPU8044645	0.8-4.2	46	2.00	10	45.75	56	2:1	25**√	19.5x11.13x5.13
CBPU8045048	0.8-4.2	50	2.00	10	48.75	59	2:1	60	17.6x16.8x5.77
CBP01023035	1.0-2.0	30	2.00	8	35	42	2:1	3.0√	SN8
CBP01023533	1.0-2.0	35	2.00	5	33	40	2:1	1.8√	SN8▲
CBP01023537	1.0-2.0	35	2.00	8	37	44	2:1	4.5√	SN8
CBP01023637	1.0-2.0	36	1.50	10	37	48	2:1	3.0(Max)**√	6.0x2.15x0.72
CBP01024040	1.0-2.0	40	2.00	8	40	47	2:1	7.0√	DN8
CBP01024041	1.0-2.0	40	2.00	8	41	51	2:1	7**√	6.8x2.63x0.75
CBP01024043	1.0-2.0	40	2.50	8	43	50	2:1	10√	QNC13
CBP01024443	1.0-2.0	44	1.50	10	43	55	2:1	14(Max)**√	*
CBP01024646	1.0-2.0	46	2.00	10	46.5	58	2:1	17**√	*
CBP01023636	1.0-2.5	36	1.50	10	36	48	2:1	3(Max)**√	6.0x2.15x0.72
CBP01024039	1.0-2.5	40	1.50	10	39	50	2:1	5**√	6.8x2.63x0.75
CBP01024640	1.0-2.5	46	1.50	10	40	53	2:1	50**√	6.0x2.15x0.837
CBP01024643	1.0-2.5	46	1.50	10	43	57	2:1	50**√	6.4x3.4x1.25
CBP01034039	1.0-3.0	40	1.50	10	39	50	2:1	6**√	6.8x2.63x0.75
CBP01034646	1.0-3.0	46	1.50	10	46.5	56	2:1	26(Max)**√	*
CBP01024140	1.3-2.7	41	1.50	10	40	50	2:1	6**√	6.8x2.63x0.75
CBP02043033	2.0-4.0	30	2.00	5	33	40	2:1	1.7√	SN8▲
CBP02043035	2.0-4.0	30	2.00	8	35	42	2:1	3.5√	SN8
CBP02043537	2.0-4.0	35	2.00	8	37	44	2:1	4.5√	SN8
CBP02043837	2.0-4.0	38	1.50	10	37.75	48	2:1	3**√	6.8x2.63x0.75
CBP02044040	2.0-4.0	40	2.50	8	40	47	2:1	7.0√	DN8
CBP02044043	2.0-4.0	40	3.00	8	43	50	2:1	10√	QNC13
CBP02044240	2.0-4.0	42	1.50	10	40	52	2:1	7**√	11x5.0x1.0
CBP02044443	2.0-4.0	44	1.50	10	43	50	2:1	15**√	*



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CBP02044846	2.0-4.0	48	1.50	10	46	56	2:1	30**√	*
CBP02063033	2.0-6.0	30	1.75	6	33	40	2:1	1.7√	SN8▲
CBP02063535	2.0-6.0	35	3.00	8	35	42	2:1	3.5√	SN8▲
CBP02064037	2.0-6.0	40	3.50	8	37	44	2:1	7.0√	DN8
CBP02064040	2.0-6.0	40	4.00	8	40	47	2:1	10.0√	QNC13
CBP02083033	2.0-8.0	30	2.50	6	33	40	2:1	1.8√	SN8▲
CBP02083535	2.0-8.0	35	4.00	8	35	42	2:1	3.5√	DN8
CBP02084037	2.0-8.0	40	4.00	8	37	44	2:1	7.0√	QNC13
CBP02084040	2.0-8.0	40	4.00	8	40	44	2:1	10√	QNC13
CBP02183031	2.0-18.0	30	4.50	7	31	38	2.25:1	4.5√	*
CBP02183533	2.0-18.0	35	5.00	7	33	40	2.25:1	90√	*
CBP02203031	2.0-20.0	30	5.50	8	31	38	2.5:1	4.5√	*
CBP02203533	2.0-20.0	35	6.00	8	33	40	2.5:1	90√	*
CBP03123032	3.7-12.0	30	2.50	6	32	42	2:1	1.8√	LN7
CBP03123034	3.7-12.0	35	3.00	6	34	41	2:1	3.0√	SN8▲
CBP03123536	3.7-12.0	40	3.50	6	36	43	2:1	5.0√	DN8
CBP04083833	4.0-8.0	38	2.25	6	33	40	2:1	1.8√	SN8▲
CBP04083035	4.0-8.0	30	2.50	8	35	42	2:1	3.5√	SN8▲
CBP04083537	4.0-8.0	35	3.00	8	37	44	2:1	5.0√	DN8
CBP04084040	4.0-8.0	40	3.50	8	40	47	2:1	8.0√	QNK13
CBP04084042	4.0-8.0	40	3.50	8	42	49	2:1	12.0√	QNC13
CBP05153032	5.0-15.0	30	2.50	6	32	39	2:1	2.0√	SN8▲
CBP05153534	5.0-15.0	35	3.00	6	34	40	2:1	3.5√	SN8
CBP05154036	5.0-15.0	40	3.50	6	36	42	2:1	6.0√	DN8
CBP05154038	5.0-15.0	40	4.00	6	38	45	2:1	10.0√	QNC13
CBP06183033	6.0-18.0	30	3.50	6	33	40	2:1	2.5√	SN8
CBP06183535	6.0-18.0	35	4.00	6	35	42	2:1	3.5√	DN8
CBP06184037	6.0-18.0	40	5.00	7	37	44	2:1	7.5√	QNK13
CBP06184040	6.0-18.0	40	5.00	8	40	46	2:1	15.0√	*
CBP06113034	6.5-11.5	30	2.00	7	34	41	2:1	3.0√	MN3
CBP06113537	6.5-11.5	35	2.50	7	37	44	2:1	3.5√	DN8
CBP06114039	6.5-11.5	40	3.00	7	39	46	2:1	6.0√	QNK13
CBP08123033	8.0-12.0	30	2.00	8	33	40	2:1	2.5√	HN7
CBP08123535	8.0-12.0	35	2.50	8	35	42	2:1	4.0√	SN8
CBP08124037	8.0-12.0	40	3.00	8	37	44	2:1	6.0√	DN10
CBP08124039	8.0-12.0	40	3.50	8	39	46	2:1	8.0√	QNK13
CBP12183033	12.0-18.0	30	3.00	6	33	40	2:1	2.5√	SN8
CBP12183535	12.0-18.0	35	3.50	6	35	42	2:1	3.5√	DN8
CBP12184037	12.0-18.0	40	4.00	7	37	44	2:1	7.5√	QNK13
CBP12184040	12.0-18.0	40	4.50	8	40	46	2:1	15.0√	*
CBP13163033	13.0-16.0	30	2.50	6	33	40	2:1	2.5√	SN8



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CBP13163535	13.0-16.0	35	2.75	6	35	42	2:1	5.0√	DN8
CBP13164037	13.0-16.0	40	3.00	6	37	44	2:1	10.0√	QNK10
CBP13164539	13.0-16.0	45	3.25	6	39	46	2:1	18.0√	QNC15
CBP13165041	13.0-16.0	50	3.50	6	41	48	2:1	35.0√	*
CBP13173534	13.0-17.0	35	3.00	6	34	41	2:1	1.5√	SN8
CBP13173536	13.0-17.0	35	3.50	6	36.5	43	2:1	3.0√	DN8
CBP13174039	13.0-17.0	40	4.00	6	39	46	2:1	6.0√	QNK10
CBP13174041	13.0-17.0	40	4.00	6	41	47	2:1	12.0√	*
CBP13174043	13.0-17.0	40	4.00	6	43	50	2:1	24.0√	*
CBP13183534	13.0-18.0	35	2.00	7	34	40	2:1 typ	3.0√	SN8
CBP13184037	13.0-18.0	40	2.50	7	37	44	2:1	5.0√	DN8
CBP13184539	13.0-18.0	45	3.00	7	39	46	2:1	10.0√	*
CBP13184541	13.0-18.0	45	3.50	7	41	48	2:1	20.0√	*
CBP13185043	13.0-18.0	50	4.00	7	43	50	2:1	35.0√	*
CBP18203033	18.0-20.0	30	2.00	10	33	40	2:1	3.5√	MN4
CBP18203535	18.0-20.0	35	2.50	10	35	42	2:1	6.0√	SN8
CBP18204037	18.0-20.0	40	3.00	10	37	44	2:1	9.0√	DN8
CBP18204040	18.0-20.0	40	4.00	10	40	46	2:1	13.0√	QNC13
CBP18223033	18.0-22.0	30	2.50	8	33	40	2:1	2.0√	MN4
CBP18223535	18.0-22.0	35	3.00	8	35	42	2:1	3.5√	8N8
CBP18224037	18.0-22.0	40	3.50	8	37	44	2:1	7.0√	DN8
CBP18233031	18.0-23.0	30	2.00	8	31	38	2:1	1.0√	SN8
CBP18233533	18.0-23.0	35	2.50	8	33	40	2:1	4.0√	DN8
CBP18234035	18.0-23.0	40	3.00	8	35	42	2:1	8.0√	QNK10
CBP18234037	18.0-23.0	40	3.50	8	37	44	2:1	16.0√	*
CBP18243532	18.0-24.5	35	3.00	7	32.5	40	2:1	6.0√	SN8
CBP18244035	18.0-24.5	40	4.50	7	35Psat	42	2:1	11.0√	QNK13
CBP18263533	18.0-26.5	35	3.00	7	33	40	2:1	3.5√	DN8
CBP18264035	18.0-26.5	40	3.50	7	35	42	2:1	6.0√	QNK13
CBP24313534	24.0-31.0	35	2.50	6	34	41	2:1 typ	2.5√	CKP4
CBP24314036	24.0-31.0	40	3.00	6	36	43	2:1	4.5√	CKP5
CBP24314538	24.0-31.0	45	3.50	6	38	45	2:1	9.0√	*
CBP24314540	24.0-31.0	45	4.00	6	40	47	2:1	18√	*
CBP24314541	24.0-31.0	45	4.50	6	41	48	2:1	35√	*
CBP25333031	25.0-33.0	30	3.00	6	31	38	2:1	4.5√	CKP5
CBP25333533	25.0-33.0	35	3.50	6	33	40	2:1	9.0√	*
CBP25334031	25.0-33.0	40	3.50	7	31	38	2:1	5.0√	CKP5
CBP25334033	25.0-33.0	40	4.50	7	33	40	2:1	10.0√	*
CBP25334035	25.0-33.0	40	3.50	6	35	42	2:1	18.0√	*
CBP26314034	26.0-31.0	40	2.50	6	34	41	2:1	5.0√	CKP5
CBP26314036	26.0-31.0	40	3.50	6	36	43	2:1	10.0√	*



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CBP26403529	26.5-40.0	35	5typ	8	29Psat	36	2:1	6.0√	*
CBP27324033	27.0-32.0	40	3.00	6	33	40	2:1	5.0√	CKP5
CBP27324035	27.0-32.0	40	4.00	6	35	42	2:1	10.0√	*
CBP28313037	28.0-31.0	30	2.00	7	37	44	2:1	4.2√	*
CBP28313539	28.0-31.0	35	2.50	7	39	46	2:1	9.0√	*
CBP28314041	28.0-31.0	40	3.00	7	41	46	2:1	18.0√	*
CBP28314043	28.0-31.0	40	3.50	7	43	50	2:1	36.0√	*
CBP30403031	30.0-40.0	30	4.00	6	31Psat	38	2:1	2.2√	CKP4
CBP30403032	30.0-40.0	30	4.50	6	32	39	2:1	4.5√	*
CBP30403534	30.0-40.0	35	4.50	6	34	41	2:1	9.0√	*
CBP30404036	30.0-40.0	40	5.50	6	36	43	2:1	18.0√	*
CBP30404038	30.0-40.0	40	5.50	6	38	45	2:1	36.0√	*
CBP31373033	31.0-37.0	30	3.00	6	33	40	2:1	2.0√	CKP4
CBP31373535	31.0-37.0	35	3.50	6	35	42	2:1	4.0√	CKP5
CBP31374037	31.0-37.0	40	4.00	6	37	44	2:1 typ	8.0	QND8
CBP31374039	31.0-37.0	40	4.00	6	39	46	2:1 typ	16.0	*
CBP33364032	33.0-36.0	40	2.00	6	32	39	2:1 typ	3.5	CKP4
CBP33364534	33.0-36.0	45	3.00	6	34	41	2:1 typ	6.0	CKP5
CBP37404032	37.0-40.0	40	3.00	10	32	39	2:1 typ	3.5	CKP4
CBP37404534	37.0-40.0	45	3.50	10	34	41	2:1 typ	8.0	CKP5
CBP40453532	40.0-45.0	35	2.50	10	32	39	2:1 typ	5.0	CKP5
CBP40454033	40.0-45.0	40	3.00	10	33	40	2:1 typ	9.0	QND8
CBP41463033	41.0-46.0	30	3.50	10	33Psat	40	2:1 typ	10.0	QND8

ALL THE ABOVE SPECIFICATIONS ARE @ 25°C

OTHER FREQUENCY BANDS & HIGHER POWER ARE ALSO AVAILABLE.

TEMPERATURE COMPENSATED AMPLIFIERS & GAIN CONTROL ARE ALSO AVAILABLE

*CONSULT THE FACTORY

** VDC is 28V.

√ SMALL SIGNAL CURRENT

▲ SMALLER PACKAGES ARE ALSO AVAILABLE

CERNEX RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE.