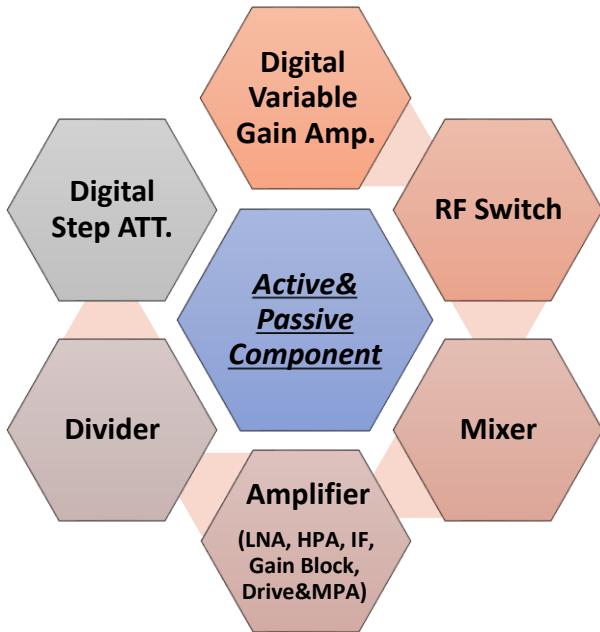
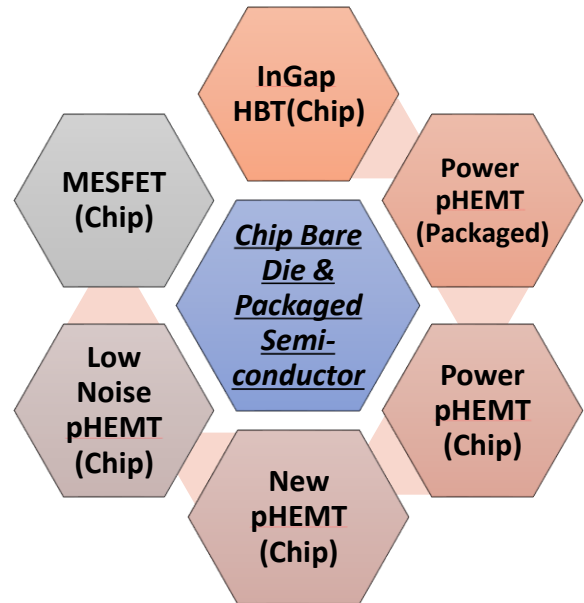


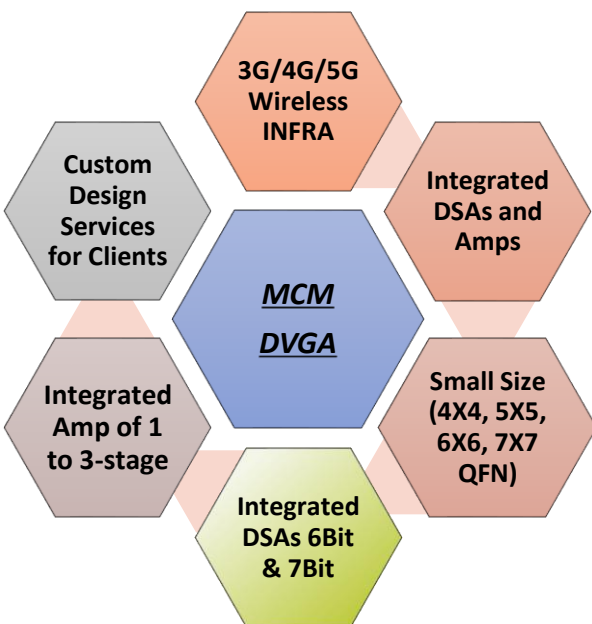
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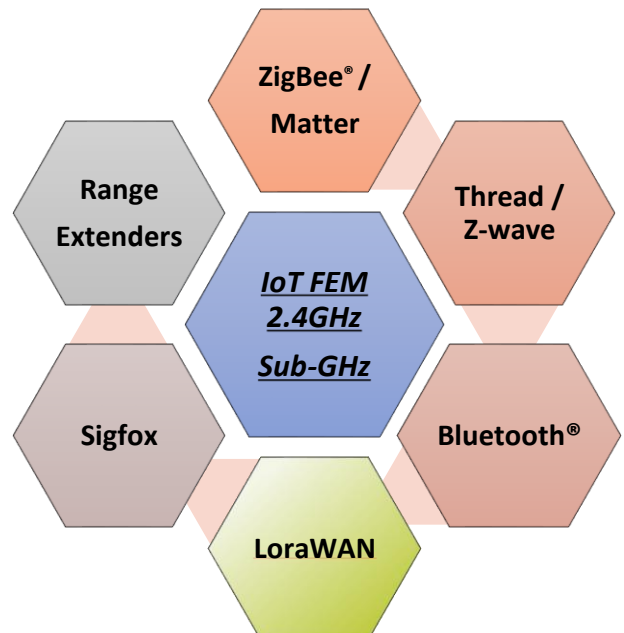
**MMICs for Wireless Infrastructure**



**Bare Dies up to 26.5GHz**



**MCM (Multi Chip Module)**



**IoT FEM**

[www.berex.com](http://www.berex.com)

## Short form Package Product Description

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  - ➔ BM831/BM851/BM351/BD0926/BD1926/BD2326/BD2626/BD3526/BD4026/BD4526
11. **IoT FEM**
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8TR8210/8TR8211/8TR8211C/8TR8213/8TR8218/8TR8219/8TR8220/8TR8241/BFM4120

[www.berex.com](http://www.berex.com)

## Short form Bare Dies Product Description

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**1. High Efficiency Heterojunction Power FETs**

→ BCP020C/BCP030C/BCP040C/BCP060C/BCP080C/BCP120C/BCP160C/BCP240C/BCP020C-70/BCP030C-70

**2. Low Distortion GaAs Power FETs**

→ BCF020T/BCF030TBCT040T/BCF060T/BCF080T/BCF120T/BCF240T

**3. Super Low Noise High Gain Heterojunction FETs**

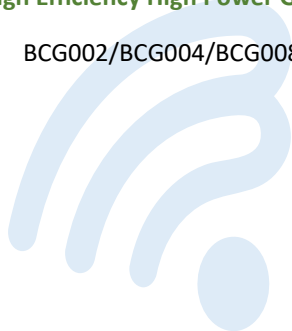
→ BCL016B/BCL015/BCL015-70

**4. High Reliable InGaP/GaAs HBT**

→ BCG13D/BCT05CV

**5. High Efficiency High Power GaN**

→ BCG002/BCG004/BCG008



BEREX

## Low Noise Amplifier

- ❖ 40 to 8000 MHz
- ❖ Internally matched to 50 ohms
- ❖ Operated at 3.0V and 5.0V
- ❖ Fast shut down to support TDD systems
- ❖ Green/RoHS2 Compliant Package

- ❖ **Application**
  - Repeater & Base station Infrastructure
  - Defense/Aerospace
  - LTE / WDCMA / EDGE / CDMA / 5G NR
  - General Purpose Wireless

Part No.	BW (MHz)	Freq. (MHz)	Gs (dB)	P1dB (dBm)	OIP3/Tone (dBm)		NF (dB)	Vd (V)	Id (mA)	PKG
<a href="#">BL022A</a>	50-6000	1900	19.0	22.0	35.5	5dBm	1.5	5	70	<a href="#">SOT89</a>
<a href="#">BL083</a>	50-4000	1850	15.6	17.7	31.5	0dBm	0.78	3	42	<a href="#">SOT363</a>
<a href="#">BNT01</a>	1500-3000	1900	15.5	22.0	37.0	5dBm	1.6	4.4	68	<a href="#">SOT89</a>
<a href="#">BNT02</a>	40-6000	3500	17.5	19.6	37.5	5dBm	1.5	5	85	<a href="#">SOT89</a>
			16.7	16.0	31.1		1.5	3.3	48	
<a href="#">BLB01</a>	50-1500	700	22.5	21.1	37.5	0dBm	0.43	5	66	<a href="#">DFN8 2X2</a>
			21.4	16.9	31.0		0.44	3	27	
<a href="#">BLB02</a>	1500-2700	1950	18.1	19.5	36.8	0dBm	0.82	5	60	<a href="#">DFN8 2X2</a>
			17.7	15.8	30.0		0.73	3	35	
<a href="#">BLB03</a>	1500-4000	2650	18.0	21.0	35.8	0dBm	0.73	5	57	<a href="#">DFN8 2X2</a>
			17.0	16.6	30.3		0.73	3	34	
<a href="#">BLB04</a> <i>New</i>	2500-5000	3600	18.0	18.7	33.0	0dBm	0.59	5	49	<a href="#">DFN8 2X2</a>
			17.8	15.5	34.5		0.58	3.3	44	
<a href="#">BLB28</a> <i>New</i>	2500-7000	4900	20.7	19.6	31.5	0dBm	0.8	5	52	<a href="#">DFN8 2X2</a>
<a href="#">BNT21</a>	50-6000	3500	18.0	19.0	37.0	5dBm	1.5	5	83	<a href="#">DFN8 2X2</a>
<a href="#">BNT22</a>	500-8000	3500	20.5	19.5	34.0	5dBm	1.9	5	90	<a href="#">DFN8 2X2</a>

### Wide Band Gain Block Amplifier

- ❖ 5 to 8000 MHz
- ❖ Internally matched to 50 ohms
- ❖ High Reliable InGaP/GaAs HBT
- ❖ Patented temperature compensation
- ❖ Patented Over voltage Protection Circuit
- ❖ Green/RoHS2 Compliant Package

- ❖ **Application**
  - Repeater & Base station Infrastructure
  - Defense/Aerospace
  - LTE / WDCMA / EDGE / CDMA / 5G NR
  - General Purpose Wireless
  - IF amplifier, RF driver amplifier

Part No.	BW (MHz)	Freq. (MHz)	Gs (dB)	P1dB (dBm)	OIP3/Tone (dBm)		NF (dB)	Vd (V)	Id (mA)	PKG
<a href="#"><u>BG11C</u></a>	50-4000	1900	20.8	17.3	30	6dBm	4	5	48	<a href="#"><u>SOT89</u></a>
	50-4000	1900	20.5	14.3	26	6dBm	3.9	4.5	35	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BG12B</u></a>	50-4000	900	17.1	20.9	37	5dBm	2.9	5	77	<a href="#"><u>SOT89</u></a>
	50-4000	900	17	18.5	34	5dBm	2.8	4.5	58	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BG12C</u></a>	50-4000	900	20.5	21	35	7dBm	2.6	5	67	<a href="#"><u>SOT89</u></a>
	50-4000	900	20.2	17.5	30.5	7dBm	2.5	4.5	49	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BG13B</u></a>	5-6000	1900	13.3	18.5	35	7dBm	8.3	5	70	<a href="#"><u>SOT89</u></a>
	5-4000	1900	13.2	15.9	31.5	7dBm	8.3	4.5	58	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BG13D</u></a>	5-6000	1900	21.5	19	32	7dBm	4.2	5	65	<a href="#"><u>SOT89</u></a>
	5-4000	1900	20.6	13.8	23.5	7dBm	4.2	4.5	34	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BG14A</u></a>	5-6000	1900	16	19.5	35.5	9dBm	6	5	85	<a href="#"><u>SOT89</u></a>
	5-4000	1900	15.9	17.5	32.5	9dBm	6	4.5	69	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BG14B</u></a>	5-6000	1900	16	19.5	35	9dBm	5.2	5	75	<a href="#"><u>SOT89</u></a>
	5-4000	1900	15.8	16.7	31.5	9dBm	5.2	4.5	58	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BG15A</u></a>	50-4000	1900	19.2	17.4	31.2	2dBm	2.9	5	55	<a href="#"><u>SOT89</u></a>
	50-4000	1900	18.8	14.4	25.3	2dBm	2.8	4.5	34	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BG16C</u></a>	5-4000	1900	16	15.2	27	3dBm	4.6	5	40	<a href="#"><u>SOT89</u></a>
	5-4000	1900	15.4	12	20	3dBm	4.6	4.5	29	<a href="#"><u>SOT89</u></a>

### Wide Band Gain Block Amplifier

- ❖ 5 to 8000 MHz
- ❖ Internally matched to 50 ohms
- ❖ High Reliable InGaP/GaAs HBT
- ❖ Patented temperature compensation
- ❖ Patented Over voltage Protection Circuit
- ❖ Green/RoHS2 Compliant Package

- ❖ **Application**
  - Repeater & Base station Infrastructure
  - Defense/Aerospace
  - LTE / WDCMA / EDGE / CDMA / 5G NR
  - General Purpose Wireless
  - IF amplifier, RF driver amplifier

Part No.	BW (MHz)	Freq. (MHz)	Gs (dB)	P1dB (dBm)	OIP3/Tone (dBm)		NF (dB)	Vd (V)	Id (mA)	PKG
<a href="#">BG17A</a>	5-4000	1900	17	19.2	33	5dBm	4.9	5	65	<a href="#">SOT89</a>
	5-4000	1900	16.7	16.1	29	5dBm	4.9	4.5	45	<a href="#">SOT89</a>
<a href="#">BG17C</a>	5-6000	1900	16.4	17	30	2dBm	4	5	55	<a href="#">SOT89</a>
	5-4000	1900	15.9	13.7	24.5	2dBm	4	4.5	37	<a href="#">SOT89</a>
<a href="#">BG18A</a>	50-4000	1900	15.1	18.9	32.5	7dBm	4.2	5	70	<a href="#">SOT89</a>
	50-4000	1900	14.9	17.1	30.5	7dBm	4.2	4.5	57	<a href="#">SOT89</a>
<a href="#">BG18B</a>	50-4000	1900	18.5	18.9	31.5	7dBm	3.2	5	72	<a href="#">SOT89</a>
	50-4000	1900	18.4	16.2	29.5	7dBm	3.2	4.5	53	<a href="#">SOT89</a>
<a href="#">BG18C</a>	50-4000	1900	20.9	18.8	32.5	7dBm	3.7	5	73	<a href="#">SOT89</a>
	50-4000	1900	20.7	16.8	30	7dBm	3.7	4.5	52	<a href="#">SOT89</a>
<a href="#">BG18D</a>	50-4000	1900	21.9	19.3	32.5	7dBm	5	5	83	<a href="#">SOT89</a>
<a href="#">BBA02</a>	40-8000	2140	15.6	23.2	35	5dBm	2.9	5	90	<a href="#">SOT89</a>
<a href="#">BBA03</a>	30-6000	900	14.7	20.5	39.7	6dBm	1.85	5	100	<a href="#">SOT89</a>
<a href="#">BBA31</a> <i>New</i>	50-5000	900	14.8	22.2	40.8	5dBm	1.9	5	100	<a href="#">DFN8 2X2</a>
<a href="#">BGM26</a> <i>New</i>	1700-5000	3500	31.5	19.5	30	2dBm	2.9	5	90	<a href="#">QFN 3x3</a>

### [SOT363/343 Gain Block Amplifier](#)

- ❖ 30 to 5000 MHz
- ❖ Internally matched to 50 ohms
- ❖ High Reliable InGaP/GaAs HBT
- ❖ Patented temperature compensation
- ❖ Patented Over voltage Protection Circuit
- ❖ Green/RoHS2 Compliant Package

- ❖ **Application**
  - Repeater & Base station Infrastructure
  - Defense/Aerospace
  - LTE / WDCMA / EDGE / CDMA / 5G NR
  - General Purpose Wireless
  - IF amplifier, RF driver amplifier

Part No.	BW (MHz)	Freq. (MHz)	Gs (dB)	P1dB (dBm)	OIP3/Tone (dBm)		NF (dB)	Vd (V)	Id (mA)	PKG
<a href="#">BGS1</a>	50-4000	900	22.2	16.7	26	0dBm	2.9	3.2	26	<a href="#">SOT363</a>
<a href="#">BGS2</a>	50-4000	900	23.6	13.4	25.5	0dBm	2.3	3	34	<a href="#">SOT363</a>
<a href="#">BGS3</a>	30-5000	900	25.4	17.4	30.5	0dBm	1.7	3	52	<a href="#">SOT363</a>
<a href="#">BGS4</a>	50~4000	1900	14.6	18.8	30	0dBm	2.1	3.3	26	<a href="#">SOT363</a>
<a href="#">BGS5</a>	40-5000	900	16.5	16.2	31.5	0dBm	2.5	3	52	<a href="#">SOT363</a>
<a href="#">BGS6</a>	50-4000	900	21.8	17	26.1	0dBm	2.9	3.3	27	<a href="#">SOT343</a>
<a href="#">BGH5</a> <i>New</i>	40-6000	3500	14.0	14.0	26.0	0dBm	3.3	3.3	50	<a href="#">SOT363</a>
<a href="#">BGE02</a>	30-4000	3500	17.4	17.7	34.5	0dBm	1.9	3.3	69	<a href="#">SOT363</a>

## [Internally Matched IF Amplifier](#)

- ❖ 5 to 800MHz
- ❖ Internally matched to 50 ohms
- ❖ High performance InGaP/GaAs HBT
- ❖ Patented temperature compensation
- ❖ Patented Over voltage Protection Circuit
- ❖ Green/RoHS2 Compliant Package

- ❖ **Application**
  - Repeater & Base station Infrastructure
  - Commercial/Industrial/Military wireless system

Part No.	BW (MHz)	Freq. (MHz)	Gs (dB)	P1dB (dBm)	OIP3/Tone (dBm)		NF (dB)	Vd (V)	Id (mA)	PKG
<a href="#">BG20B</a>	5-800	70	22	21	41	13dBm	4.6	5	105	<a href="#">SOT89</a>
	5-800	70	21.8	19.8	34	13dBm	4.6	4.5	79	<a href="#">SOT89</a>
<a href="#">BIF1</a>	5-800	70	15.2	20	44	10dBm	4.2	5	105	<a href="#">SOT89</a>
	5-800	70	15.1	18.6	42.4	10dBm	4.2	4.5	79	<a href="#">SOT89</a>
<a href="#">BIF3</a>	5-800	70	20.3	23.5	44	8dBm	5.1	5	85	<a href="#">SOT89</a>
	5-800	70	20.2	22.1	34.5	8dBm	5.1	4.5	54	<a href="#">SOT89</a>
<a href="#">BIF5</a>	5-800	70	17.5	20.5	43	10dBm	4	5	107	<a href="#">SOT89</a>
	5-800	70	17.4	19.2	40	10dBm	4	4.5	85	<a href="#">SOT89</a>
<a href="#">BIF7</a>	5-800	70	27	21	40	10dBm	2.9	5	95	<a href="#">SOT89</a>
	5-800	70	26.7	18.8	34.5	10dBm	2.9	4.5	67	<a href="#">SOT89</a>
<a href="#">BIG2</a>	30-600	70	15.6	20.3	40	8dBm	3.3	5	83	<a href="#">SOT89</a>
	30-600	70	15.6	18.6	38	8dBm	3.2	4.5	68	<a href="#">SOT89</a>
<a href="#">BIG4</a>	30-600	70	20.9	21	40.5	8dBm	2.7	5	85	<a href="#">SOT89</a>
	30-600	70	20.8	19.3	38.9	8dBm	2.6	4.5	69	<a href="#">SOT89</a>
<a href="#">BIG8</a>	50-600	70	27	20.7	40.5	8dBm	2.7	5	94	<a href="#">SOT89</a>
	50-600	70	26.7	19.1	34.8	8dBm	2.8	4.5	66	<a href="#">SOT89</a>



## Wide Band Drive & Medium Power Amplifier

- ❖ 5 to 4000MHz
- ❖ High performance InGaP/GaAs HBT
- ❖ Requires a few external matching Components on the In/Out Pin
- ❖ Green/RoHS2 Compliant Package

- ❖ **Application**
  - Base station Infrastructure/RFID
  - Commercial/Industrial/Military wireless system
  - Wireless LAN

Part No.	BW (MHz)	Freq. (MHz)	Gs (dB)	P1dB (dBm)	OIP3/Tone (dBm)		NF (dB)	Vd (V)	Id (mA)	PKG
<a href="#"><u>BT05CV</u></a>	5-4000	900	21.5	23.9	43.5	9dBm	4.4	5	85	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BT05VG</u></a>	1500-4000	1900	18.0	22.5	39.0	10dBm	4.6	5	85	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BT05VG2</u></a>	1500-4000	1900	19.0	22.7	40.5	11dBm	3.9	5	88	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BT09AG</u></a>	5-4000	900	20	24.5	43	14dBm	4.2	5	160	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BT09VG</u></a>	5-4000	1900	15.5	25.5	41	13dBm	4.0	5	160	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BT09E</u></a>	500-4000	1900	18.7	25.2	37	10dBm	4.4	5	85	<a href="#"><u>SOT89</u></a>
<a href="#"><u>BT013</u></a>	1500-4000	2140	14	27.2	45	13dBm	6.8	5	135	<a href="#"><u>SOT89</u></a>

## High Power Amplifier

- ❖ 100 to 4000MHz
- ❖ High Reliable InGaP/GaAs HBT
- ❖ Requires a few external matching Components on the In/Out Pin
- ❖ Patented Over Voltage Protection Circuit
- ❖ Green/RoHS2 Compliant Package

- ❖ **Application**
  - Base station/Repeaters Infrastructure/Small cell
  - Commercial/Industrial/Military wireless system
  - LTE / WCDMA / CDMA Wireless Infrastructure

Part No.	BW (MHz)	Freq. (MHz)	Gs (dB)	P1dB (dBm)	OIP3/Tone (dBm)		NF (dB)	Vd (V)	Id (mA)	PKG
<a href="#"><u>BT301</u></a>	500-4000	1900	12.5	30.3	49	16dBm	8.6	5	350	<u>SOIC8</u>
<a href="#"><u>BT302</u></a>	500-4000	2400	16.0	29.5	42.1	16dBm	4.2	5	215	<u>SOT89</u>
<a href="#"><u>BT33L</u></a>	100-1000	700	22	33	48.5	20dBm	6.8	5	400	<u>QFN 4x4</u>
<a href="#"><u>BMT321</u></a>	700-2800	1900	27	32.5	50	17dBm	5	5	355	<u>QFN 3x3</u>
<a href="#"><u>BMT332</u></a>	700-2400	1850	27.3	33.3	48	23dBm	6	5	680	<u>QFN 5x5</u>
<a href="#"><u>BMT333</u></a>	1800-2700	2350	27.4	34.1	50	23dBm	5.3	5	550	<u>QFN 5x5</u>
<a href="#"><u>BMT352</u></a>	3000-4000	3500	20.8	31.5	48	17dBm	5.1	5	330	<u>QFN 3x3</u>

## Wide Band RF Switch

- ❖ 5 to 8500MHz
- ❖ Not require blocking capacitors
- ❖ Designed with robust ESD protection circuits
- ❖ Ultra High Isolation/Fast Switching

- ❖ **Application**
  - Wireless 3G/4G/5G Infrastructure
  - Base station & Repeater
  - WLAN 802.11 a/b/ac/ax

Part No.	BW (MHz)	Freq. (MHz)	I.L (dB)	Iso(dB) RFC to RFx	R.L (dB)	IP1dB (dBm)	IIP3 (dBm)	2nd Harmonic (dBc)	Type	PKG
<a href="#">BSW7221V</a> (Automotive) <i>New</i>	5-8500	2000	0.36	47	20	37	65	95	SPDT(R)	<u>6-lead UDFN 1.5x1.5</u>
		6000	0.61	30		35	62	75		
<a href="#">BSW6620</a> <i>New</i>	5-8000	2000	0.78	68	18	36.5	66	100	SPDT(A)	<u>16-lead QFN 4.0x4.0</u>
		6000	0.92	54		35.8	65	96		
<a href="#">BSW6622</a> <i>New</i>	5-8000	2000	0.73	62	17	36	64	95	SPDT(A)	<u>20-lead QFN 4.0x4.0</u>
		6000	1.1	48		34	65	80		
<a href="#">BSW6420</a>	50-6000	2000	0.77	67	15	40.5	63.5	97	SPDT(A)	<u>16-lead TQFN 3x3</u>
		4000	0.8	52		41	66	97		
<a href="#">BSW6440</a>	50-6000	2000	0.85	62	15	40.3	62.5	98.7	SP4T(A)	<u>16-lead TQFN 3x3</u>
		6000	1.29	42		39.9	64.1	93.4		
<a href="#">BSW7221</a>	5-8500	2000	0.36	47	20	37	65	95	SPDT(R)	<u>6-lead UDFN 1.5x1.5</u>
		6000	0.61	30		35	64	80		
<a href="#">BSW722T</a>	5-6000	2000	0.4	47	20	37	65	95	SPDT(R)	<u>6-lead xTDFN 1.7x1.7x0.37</u>
		6000	0.51	28		35	64	80		
<a href="#">BSW7321</a>	5-8000	2000	0.57	46	15	39	65	90	SPDT(R)	<u>6-lead UDFN 1.5x1.5</u>
		6000	0.97	30		39	65	90		
<a href="#">BSW7421</a>	5-8000	2000	0.67	54	15	39	65	95	SPDT(R)	<u>6-lead UDFN 1.5x1.5</u>
		6000	0.91	48		38	65	80		
<a href="#">BSW6321</a>	5-6000	2000	0.55	45	20	39	65	90	SPDT(R)	<u>6-lead UDFN 1.5x1.5</u>
		6000	0.73	29		39	65	90		

## Digital Step Attenuator

- ❖ **0.009 to 8000MHz**
  - ❖ **Not require blocking capacitors**
  - ❖ **Programing Interface**
    - *Direct Parallel/Latched Parallel/Serial*
  - ❖ **3bit Addressable function**
  - ❖ **Lead-free/RoHS2-comliant Package**
- ❖ **Application**
    - *5G/4G+/4G/3G Cellular Repeater & Base station*
    - *Test and measurement (T&M)*
    - *Digital Pre-Distortion / NFC Infrastructure*
    - *Test Equipment and sensors*
    - *Military Wireless system / Cable Infrastructure*

➤ **6Bit Attenuation Control: 0.5dB step**

Part No.	Freq. (MHz)	Bits	Insertion Loss(dB)	Attenuation Range(dB)	Attenuation Step(dB)	Input P 0.1dB(dBm)	Input IIP3 (dBm)	Interface	PKG
<a href="#"><u>BDA4601</u></a>	1-4000	6-Bit	0.7~2.6	0-31.5	0.5	31	59	Serial/Parallel	<a href="#"><u>QFN 4x4 20L</u></a>
<a href="#"><u>BDA4620</u></a>	1-6000	6-Bit	0.6~1.9	0-31.5	0.5	30	63	Serial/Parallel	<a href="#"><u>QFN 4x4 20L</u></a>
<a href="#"><u>BDA4630</u></a>	1-6000	6-Bit	0.5~2.1	0-31.5	0.5	29	64	Serial Addressable /Parallel	<a href="#"><u>QFN 4x4 24L</u></a>

➤ **7Bit Attenuation Control: 0.25dB step**

Part No.	Freq. (MHz)	Bits	Insertion Loss(dB)	Attenuation Range(dB)	Attenuation Step(dB)	Input P 0.1dB(dBm)	Input IIP3 (dBm)	Interface	PKG
<a href="#"><u>BDA4700</u></a>	1-8000	7-Bit	0.6~2.5	0-31.75	0.25	32	65	Serial/Parallel	<a href="#"><u>QFN 4x4 24L</u></a>
<a href="#"><u>BDA4710</u></a>	1-8000	7-Bit	0.6~2.8	0-31.75	0.25	30	68	Serial Addressable /Parallel	<a href="#"><u>QFN 5x5 32L</u></a>
<a href="#"><u>BDA4730</u></a>	0.009-8000	7-Bit	0.6~2.8	0-31.75	0.25	30	68	Serial Addressable /Parallel	<a href="#"><u>QFN 5x5 32L</u></a>

## Digital Variable Gain Amplifier

- ❖ 5 to 5000MHz
- ❖ Integrate DSA to Amp Functionality
- ❖ Safe attenuation state transitions
- ❖ Programming Interface
  - Direct Parallel/Latched Parallel/Serial
- ❖ Lead-free/RoHS2-compliant Package

- ❖ Application
  - 3G/4G/5G Wireless Infrastructure and Other high performance RF application
  - Microwave and Satellite Radio
  - General purpose Wireless

➤ **6Bit Attenuation Control: 0.5dB step**

Part No.	BW (MHz)	Freq. (MHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	NF (dB)	ATT Range/ Step (dB)	Interface	VDD (V)	IDD (mA)	PKG
<a href="#">BVA303C</a>	30-5000	1900	21.2	16.6	29.9	2.7	0-31.5 / 0.5	Serial/Parallel	3	51	<a href="#">QFN 4x4 24L</a>
		3500	16.4	14.2	27.3	3.5					
<a href="#">BVA304C</a>	50-4000	1900	14.8	19	32.2	3.1	0-31.5 / 0.5	Serial/Parallel	3.3	26	<a href="#">QFN 4x4 24L</a>
		3500	9	18.8	30.6	4					
<a href="#">BVA305C</a>	40-5000	1900	14.3	14	27.7	3.6	0-31.5 / 0.5	Serial/Parallel	3	52	<a href="#">QFN 4x4 24L</a>
		3500	11.4	12.6	24.7	4.1					
<a href="#">BVA518C</a> New	5-4000	900	21.5	20.0	35.5	4.8	0-31.5 / 0.5	Serial/Parallel	5	77	<a href="#">QFN 4x4 24L</a>
		1900	20.0	18.8	32.8	5.3					
<a href="#">BVA2140</a>	700-4000	2140	30.2	25.1	40	2.9	0-31.5 / 0.5	Serial	5	150	<a href="#">QFN 4x4 24L</a>
<a href="#">BVA2140B</a>	700-4000	2140	30.4	25.6	40.2	2.7	0-31.5 / 0.5	Serial	5	150	<a href="#">QFN 4x4 24L</a>
<a href="#">BVA2182</a>	500-3800	1950	33.5	21.2	38.2	1.6	0-31.5 / 0.5	Serial	5	170	<a href="#">QFN 7x7 48L</a>
<a href="#">BVA7202</a>	400-1100	800	33.9	23.7	40.5	4.6	0-31.5 / 0.5	Serial	5	165	<a href="#">SIP LGA 6x6 28L</a>
<a href="#">BVA7212</a>	1400-2300	1800	33.2	23.6	40.6	3.3	0-31.5 / 0.5	Serial	5	180	<a href="#">SIP LGA 6x6 28L</a>

## Digital Variable Gain Amplifier

- ❖ 50 to 8000MHz
- ❖ Integrate DSA to Amp Functionality
- ❖ Safe attenuation state transitions
- ❖ Programming Interface
  - Serial
- ❖ 3bit Addressable function
- ❖ Lead-free/RoHS2-compliant Package

- ❖ Application
  - 3G/4G/5G Wireless Infrastructure and Other high performance RF application
  - Microwave and Satellite Radio
  - General purpose Wireless

➤ **7Bit Attenuation Control: 0.25dB step**

Part No.	BW (MHz)	Freq. (MHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	NF (dB)	ATT Range/ Step (dB)	Interface	VDD (V)	IDD (mA)	PKG
<a href="#">BVA1761</a> <i>New</i>	50-6000	1900	18.7	20.8	36.9	2.1	0-31.75 / 0.25	Serial (addr)	3.3-5.25	83@5V 48@3.3V	<a href="#">QFN 4x4 24L</a>
		3500	17	20	37.5	2.8					
<a href="#">BVA1762</a> <i>New</i>	500-8000	1900	20.4	20.8	36	2.6	0-31.75 / 0.25	Serial (addr)	4.0-5.25	110@5V 55@4V	<a href="#">QFN 4x4 24L</a>
		3500	19.7	20.7	34.9	3.2					
<a href="#">BVA2761</a> <i>New</i>	50-6000	1900	38.2	21.6	36.8	1.3	0-31.75 / 0.25	Serial (addr)	3.3-5.25	166@5V 96@3.3V	<a href="#">QFN 5x5 32L</a>
		3500	34.8	20.7	36.6	1.5					
<a href="#">BVA2762</a> <i>New</i>	500-8000	1900	41.5	21.3	36.6	1.5	0-31.75 / 0.25	Serial (addr)	4.0-5.25	215@5V 110@4V	<a href="#">QFN 5x5 32L</a>
		3500	40.5	21.2	35.6	1.8					
<a href="#">BVA3143</a>	3300-3800	3550	39.7	26.2	43	3.9	0-31.75 / 0.25	Serial	5	310	<a href="#">SIP LGA 6x6 28L</a>
<a href="#">BVA3144</a>	4400-5000	4650	36.3	26	41	4.0	0-31.75 / 0.25	Serial	5	310	<a href="#">SIP LGA 6x6 28L</a>
<a href="#">BVA3153</a>	3600-4200	3900	38.5	26.7	43	4.00	0-31.75 / 0.25	Serial	5	310	<a href="#">SIP LGA 6x6 28L</a>
<a href="#">BVA7242N</a>	3000-4200	3600	33.5	19.6	37.5	1.9	0-31.75 / 0.25	Serial	5	165	<a href="#">SIP LGA 6x6 28L</a>
<a href="#">BVA7242</a> <i>New</i>	3000-4200	3600	34.5	20	38	1.8	0-31.75 / 0.25	Serial	3.3-5.25	170@5V 98@3.3V	<a href="#">SIP LGA 6x6 28L</a>

## Mixer

- ❖ 700 to 6000MHz
- ❖ Low conversion loss
- ❖ Lead-free/Green/RoHS2-compliant Package

### ❖ Application

- Base station/Repeaters Infrastructure/Small cell
- Commercial/Industrial/Military wireless system
- LTE/WDMA/CDMA/ Wireless Infrastructure

Part No.	RF Freq. (MHz)	IF Freq. (MHz)	Conversion Loss (dB)	P1dB (dBm)	Input IP3 (dBm)	Lo Power (dBm)	Vd (V)	Id (mA)	PKG
<a href="#"><u>BM831</u></a>	700~1400	50 ~ 210	9.1	24.2	31.7	-2 ~ +2	5	58	MSOP-8
	700~1400	50 ~ 210	9	19.1	28.5	-2 ~ +2	3.3	45	MSOP-8
<a href="#"><u>BM851</u></a>	1700~2700	50 ~ 300	8.1	23	32.8	-2 ~ +4	5	57.5	MSOP-8
	1700~2700	50 ~ 300	8.2	18.8	30.3	-2 ~ +4	3.3	44.5	MSOP-8
<a href="#"><u>BM351</u></a>	2500~6000	50~ 700	8.9	22.1	28.8	-2 ~ +2	5	85	TDFN 8
	2500~6000	50~700	8.5	19.6	25.6	-2 ~ +2	3.3	62	TDFN 8

## Divider

- ❖ 600 to 6000MHz
- ❖ Wide band performance
- ❖ High Isolation
- ❖ RoHS2-Compliant Package

### ❖ Application

- Base station Infrastructure
- Commercial/Industrial/Military wireless system
- 5G Wireless Infrastructure
- Satellite communications

Part No.	BW (MHz)	Freq. (MHz)	I/L (dB)	Iso. (dB)	Phase Diff.		Amplitude Diff.		Solder	PKG
<a href="#"><u>BD0926</u></a>	700-1000 Cellular, GSM900	850	0.57	31.4	0.2	Deg	0.01	dB	without	<a href="#"><u>SOT26</u></a>
<a href="#"><u>BD1926</u></a>	1700-2300 PCS, WCDMA	1900	0.55	24.8	1.5	Deg	0.07	dB	without	<a href="#"><u>SOT26</u></a>
<a href="#"><u>BD2326</u></a>	1900-2500 PCS, WCDMA, WiBro, TD-SCDMA	2350	0.69	19.5	0.6	Deg	0.06	dB	without	<a href="#"><u>SOT26</u></a>
<a href="#"><u>BD2626</u></a>	2400-2900 WCDMA, WiBro, LTE	2650	0.61	28.2	0.75	Deg	0.07	dB	without	<a href="#"><u>SOT26</u></a>
<a href="#"><u>BD3526</u></a>	2800-4200 WCDMA, LTE & 5G	3500	0.59	38	0.38	Deg	0.05	dB	without	<a href="#"><u>SOT26</u></a>
<a href="#"><u>BD4026</u></a>	600-4500 WCDMA, LTE & 5G	2100	0.7	25.6	0.13	Deg	0.01	dB	without	<a href="#"><u>QFN 3x3 16L</u></a>
<a href="#"><u>BD4526</u></a> New	2700~6000 WLAN & 5G	4900	0.8	23.5	0.6	Deg	0.05	dB	without	<a href="#"><u>QFN 3x3 12L</u></a>

## IoT FEM

- ❖ Sub-GHz, 2.4GHz
- ❖ Increased Output Power Capability up to 23dBm
- ❖ Ultra-Low NF < 2dB
- ❖ High Efficiency Optimized for Battery Operation
- ❖ Single-Ended Transceiver Interface

### ❖ Application

- Bluetooth®/ZigBee®/THREAD/Matter
- LoRaWAN™/Sigfox

### ➤ Sub – GHz products

Part No.	RF Freq. (MHz)	Description	Tx Gain (dB)	Tx Output Power (dBm)	Rx Gain (dB)	Rx NF (dB)	VDD (V)	PKG
<a href="#">8TR1111</a>	850-930	Sub-GHz ISM Band FEM	34	24	-	-	2.7-3.6	<u>16L 3 x 3 x 0.45mm QFN</u>

### ➤ Sub – GHz products(Die in Wafer form)

Part No.	RF Freq. (MHz)	Description	Application	TX Output Power (dBm)	TX Current (mA)	PKG
<a href="#">8TR1111-DWF</a>	850-930	Sub-GHz ISM Band FEM	Sigfox/LoRaWAN™/LPWAN	24	260	Die in Wafer form

### ➤ 2.4GHz products

Part No.	RF Freq. (MHz)	Description	Tx Gain (dB)	Tx Output Power (dBm)	Rx Gain (dB)	Rx NF (dB)	VDD (V)	PKG
<a href="#">8TR1211</a>	2400-2500	Bluetooth FEM_PA, By pass	14	15	-	-	2.7-3.6	<u>16L 2 x 2 x 0.45mm QFN</u>
<a href="#">8TR1215</a>	2400-2500	Bluetooth FEM_PA, By pass	12	11	-	-	1.5-2.3	<u>8L 2 x 2 x 0.45mm DFN</u>
<a href="#">8TR1218</a>	2400-2500	Bluetooth FEM_PA, By pass, Tx-Rx SW	9	10	-	-	2.7-3.6	<u>8L 2 x 2 x 0.45mm DFN</u>
<a href="#">8TR1219</a>	2400-2500	Bluetooth FEM_PA, By pass, Tx-Rx SW	10	11	-	-	2.7-3.6	<u>8L 2 x 2 x 0.45mm DFN</u>
<a href="#">8TR1241</a>	2400-2500	Bluetooth FEM_4-port Antenna	11	14	-	-	2.7-3.6	<u>20L 3 x 3 x 0.55mm QFN</u>
<a href="#">8TR2211</a>	2400-2500	ZigBee/Bluetooth FEM_LNA, By pass	-	-	13/11	2/2.5	2.7-3.6	<u>16L 2 x 2 x 0.45mm QFN</u>
<a href="#">8TR7201</a>	2400-2500	Bluetooth, PA IC	22	21	-	-	2.7-3.6	<u>8L 2 x 2 x 0.45mm DFN</u>
<a href="#">8TR8201</a>	2400-2500	ZigBee/Thread/Bluetooth FEM	24	21	12	2.5	2.7-3.6	<u>16L 3 x 3 x 0.45mm QFN</u>
<a href="#">8TR8202</a>	2400-2500	High Power ISM FEM	32	23	12	3	2.7-3.6	<u>16L 3 x 3 x 0.45mm QFN</u>
<a href="#">8TR8210</a>	2400-2500	Bluetooth, Low Power FEM	23	20	12/11	2.5/3	2.7-3.6	<u>16L 3 x 3 x 0.45mm QFN</u>
<a href="#">8TR8211</a>	2400-2500	ZigBee/Bluetooth FEM_LNA, By pass	11	13	13	2.3	2.7-3.6	<u>16L 2 x 2 x 0.45mm QFN</u>
<a href="#">8TR8211C</a>	2400-2525	ZigBee/Bluetooth FEM_LNA, By pass	11	13	9	3.1	2.7-3.6	<u>16L 2 x 2 x 0.45mm QFN</u>
<a href="#">8TR8213</a>	2400-2500	ZigBee/Bluetooth FEM_LNA, By pass	14.5	16	12	2.5	2.7-3.3	<u>16L 2 x 2 x 0.45mm QFN</u>
<a href="#">8TR8218</a> <i>New</i>	2400-2485	ZigBee/Bluetooth LE FEM_LNA, By pass	24	23	19/16.5	1.6/1.9	2.7-4.0	<u>16L 3 x 3 x 0.45mm QFN</u>
<a href="#">8TR8219</a> <i>New</i>	2400-2485	Bluetooth LE/ZigBee FEM_LNA, By pass	24	23	16.5	1.9	2.7-4.0	<u>16L 3 x 3 x 0.45mm QFN</u>
<a href="#">8TR8220</a>	2400-2500	High Power ISM FEM	30	23	11/8	2.7/3.0	2.7-3.6	<u>16L 3 x 3 x 0.45mm QFN</u>
<a href="#">8TR8241</a>	2400-2500	Bluetooth FEM_4-port Antenna	11	14	13/11	3.8/4.1	2.7-3.6	<u>20L 3 x 3 x 0.55mm QFN</u>
<a href="#">BFM4120</a>	2400-2500	ZigBee/Thread/ Bluetooth FEM	24	21	11.5	2.6	2.7-3.6	<u>16L 3 x 3 x 0.45mm QFN</u>

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## Bare Dies up to 26.5GHz

- ❖ Power pHEMT bare-die
- ❖ High-gain and medium Power in the DC to 26.5GHz
- ❖ Wideband(6-18GHz) or Narrow band application
- ❖ Operated at 8.0V
- ❖ >50% PAE

- ❖ Application
  - Commercial
  - Military / Hi-Rel.
  - Test & Measurement

### ➤ High Efficiency Heterojunction Power FETs

Part No.	Size (um <sup>2</sup> )	Chip Size (um <sup>2</sup> )	W(Gate/Finger) (um)	Bias	P1dB (dBm)	Gain (dB)	Freq. (GHz)	Idss (mA)	BVgd (V)
<b>A) Chips</b>									
<a href="#">BCP020C</a>	0.25x200	340x390	50	8V, 0.5 Idss	22	14	12	40 - 80	15
<a href="#">BCP030C</a>	0.25x300	340x390	50	8V, 0.5 Idss	24.5	13.5	12	60 - 120	15
<a href="#">BCP040C</a>	0.25x400	340x390	50	8V, 0.5 Idss	25.5	13.5	12	70 - 150	15
<a href="#">BCP060C</a>	0.25x600	340x390	60	8V, 0.5 Idss	27.5	12	12	130 - 250	15
<a href="#">BCP080C</a>	0.25x800	340x390	80	8V, 0.5 Idss	28.5	11	12	165 - 325	15
<a href="#">BCP120C</a>	0.25x1200	540x390	60	8V, 0.5 Idss	30.5	11	12	260 - 500	15
<a href="#">BCP160C</a>	0.25x1600	540x390	80	8V, 0.5 Idss	31.5	10	12	340 - 680	15
<a href="#">BCP240C</a>	0.25x2400	940x390	60	8V, 0.5 Idss	33	9	12	530 - 1030	15
<b>B) Non-hermetic Low Cost 70 mil packages, Ceramic, Micro-X</b>									
<a href="#">BCP020C-70</a>	0.25x200	-	50	6V, 0.5 Idss	21.5	12	12	40 - 80	15
<a href="#">BCP030C-70</a>	0.25x300	-	50	6V, 0.5 Idss	23	11.5	12	60 - 120	15

### ➤ Low Distortion GaAs Power FETs

Part No.	Size (um <sup>2</sup> )	Chip Size (um <sup>2</sup> )	W(Gate/Finger) (um)	Bias	P1dB (dBm)	Gain (dB)	Freq. (GHz)	Idss (mA)	BVgd (V)
<b>A) Chips</b>									
<a href="#">BCF020T</a>	0.25x200	340x360	35	8V, 0.5 Idss	19	13	12	40 - 60	15
<a href="#">BCF030T</a>	0.25x300	340x360	37.5	8V, 0.5 Idss	21.5	13.5	12	60 - 120	15
<a href="#">BCF040T</a>	0.25x400	340x360	50	8V, 0.5 Idss	23	13	12	80 - 160	15
<a href="#">BCF060T</a>	0.25x600	340x360	60	8V, 0.5 Idss	25	12.5	12	100 - 240	15
<a href="#">BCF080T</a>	0.25x800	510x360	50	8V, 0.5 Idss	26	11	12	160 - 320	15
<a href="#">BCF120T</a>	0.25x1200	550x360	60	8V, 0.5 Idss	28	11	12	200 - 440	15
<a href="#">BCF240T</a>	0.25x2400	970x360	60	8V, 0.5 Idss	30	10	12	480 - 960	15

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## Bare Dies up to 26.5GHz

### ➤ Super Low Noise High Gain Heterojunction FETs

Part No.	Size (um <sup>2</sup> )	Chip Size (um <sup>2</sup> )	W(Gate/Finger) (um)	Bias	NF (dB)	Gain (dB)	Freq. (GHz)	Idss (mA)	BVgd (V)
<b>A) Chips</b>									
<a href="#">BCL016B</a>	0.15x160	250x250	40	2V, 10mA	0.4	13.5	12	50	9
<a href="#">BCL015</a>	0.15x150	310x340	25	2V, 10mA	0.42	15	12	0.00025	10
<b>B) Non-hermetic Low Cost 70 mil packages, Ceramic, Micro-X</b>									
<a href="#">BCL015-70</a>	0.15x150	-	25		0.49	12	12	0.00025	10

### ➤ High Reliable InGaP/GaAs HBT

Part No.	BW (MHz)	Freq. (MHz)	Gs (dB)	P1dB (dBm)	OIP3/Tone (dBm)	NF (dB)	Vc (V)	Ic (mA)	Chip Size (um <sup>2</sup> )
<b>A) Chips</b>									
<a href="#">BCG13D</a>	5-4000	900	24.9	18.3	33.0	5dBm	-	69	450x470
<a href="#">BCT05CV</a>	5-4000	900	21.7	24.0	43.6	9dBm	4.4	87	450x470

- ❖ GaN Power HEMT bare-die
- ❖ High-gain and High Power in the 12GHz
- ❖ Wideband(6-18GHz) or Narrow band application
- ❖ Operated at 28.0V
- ❖ >50% PAE in the 12GHz

- ❖ **Application**
  - Commercial
  - Military / Hi-Rel.
  - Test & Measurement

### ➤ High Efficiency High Power GaN

Part No.	Size (um <sup>2</sup> )	Chip Size (um <sup>2</sup> )	W(Gate/Finger) (um)	Bias	P3dB (dBm)	G3 (dB)	Freq. (GHz)	Idss (mA)	BVgd (V)
<b>A) Chips</b>									
<a href="#">BCG002</a>	0.15x480	500x520	60	28V, 20mA	33.5	12.5	12	265 - 400	84
<a href="#">BCG004</a>	0.15x960	600x520	80	28V, 40mA	36.5	10.5	12	420 - 620	84
<a href="#">BCG008</a>	0.15x1250	500x590	100	28V, 60mA	39	9.5	12	510 - 770	84

Reference Clients

(Key Clients: Direct & in-Direct)



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