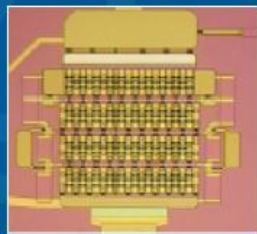


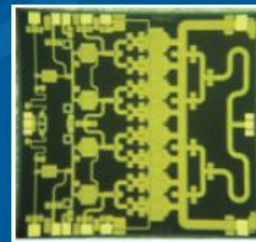
AMCOM Communications, Inc. Product Brochure February 2016

Wideband Power Amplifiers (And More!)



Power Device

(GaAs FET, GaAs PHEMT,
GaN/SiC)



MMIC PA



PA Module

Bias T
T/R Switch
Attenuator
Phase Shifter

**ISO 9001:2008 Certified
Registration # 220501.1Q**

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Section 1: AMCOM Communications, Inc.

AMCOM was established in December 1996 by a group of microwave engineers experienced in microwave device, MMIC / microwave circuit, and power amplifier module. It is located in Gaithersburg, Maryland, USA, about 20 miles northwest of Washington, DC.

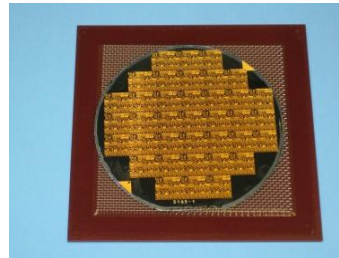
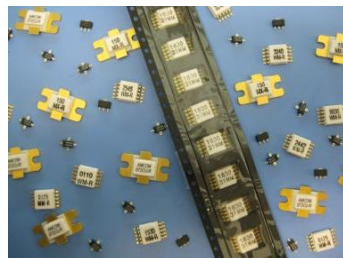
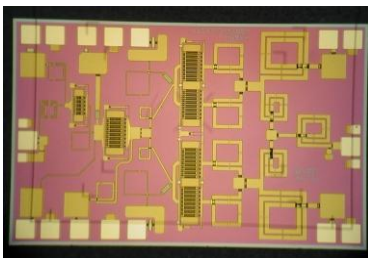
AMCOM's products are as categorized below.

- Technology base: 1) GaN HEMT/SiC (for high output power); 2) GaAs PHEMT (for good performance and low-cost); and 3) GaAs FET (for good linearity)
- Products: (many are for wideband applications)
 - 1) Discrete devices (GaN/SiC HEMT, GaAs FET, GaAs PHEMT): packaged and bare die DC-18GHz and up to 40W
 - 2) MMIC power amplifiers (based on GaN/SiC HEMT, GaAs FET, GaAs PHEMT): wideband DC-17GHz and 1W- 20W
 - 3) SSPA modules and pallets: 30MHz-17GHz and up to 100W. **This year, we have added many connectorized power amplifier modules.**
 - 4) Microwave T/R switches, phase shifters, attenuators, and bias tees
 - 5) Custom design: MMIC power amplifiers, module power amplifiers, and T/R modules: frequencies ranging from 10KHz to 60GHz with output power from 1W to 100W



One of AMCOM's specialties is custom design MMICs and modules for our customers' specific needs. Our custom products include all front-end components such as low-noise amplifiers, power amplifiers, switches, attenuators, phase shifters, and up/down converters. We make every effort to meet our customers' performance requirements including size and weight at a reasonable cost.

AMCOM has a dedicated customer support team. We take pride in our tradition of identifying cost-effective solutions for our customers. Please contact us with your microwave component needs. The following sections include AMCOM's product selection guide and package outlines.



Section 2: Popular Products (2016)

Discrete GaN/SiC HEMTs (Bare Die, low price)

Part Number	Freq(GHz)	Gss(2GHz)	P5dB(2GHz)	Eff	Vds	ECCN
AM005WN-00-R	DC-18	23dB	33.4dBm	56%	28V	EAR99
AM012WN-00-R	DC-15	22dB	37.7dBm	55%	28V	EAR99
AM025WN-00-R	DC-15	21dB	40.5dBm	53%	28V	EAR99
AM050WN-00-R	DC-15	20dB	43.3dBm	51%	28V	EAR99
AM100WN-00-R	DC-15	19dB	46.1dBm	50%	28V	3A001.b.4.b

Discrete GaN/SiC HEMTs (Packaged, low price)

Part Number	Freq(GHz)	Gss	P5dB	Eff	Vds	ECCN
AM005WN-BI-R	DC-12	15dB(3GHz)	33.5dBm(3GHz)	51%	28V	EAR99
AM012WN-BI-R	DC-10	15dB(3GHz)	37dBm(3GHz)	51%	28V	EAR99
AM025WN-BI-R	DC-8	14dB(3GHz)	40dBm(3GHz)	52%	28V	EAR99
AM050WN-CU-R	DC-6	16dB(2GHz)	43dBm(2GHz)	55%	28V	EAR99
AM100WN-CU-R	DC-6	14dB(2GHz)	46dBm(2GHz)	50%	28V	EAR99

GaN/SiC MMICs

Part Number	Freq(GHz)	SS Gain	P1dB	P5dB	Eff	Bias	ECCN
AM018033TM-SN-R	0.1-8.0	19dB	26dBm	33dBm	12%	28V	EAR99
AM07512041TM-SN-R	7.5-12.0	21dB	38dBm	41dBm	20%	28V	3A001.b.2.b
AM206541TM-SN-R	2.0-6.5	26dB	38dBm	41dBm	20%	28V	EAR99
AM006044TM-00	0.03-6.0	21dB	42dbm	44dBm	30%	30V, 60V	3A001.b.2.b
AM004047TM-00	0.05-4.0	30dB	43dBm	46dBm	40%	25V, 90V	3A001.b.2.b

GaAs C-, X-, and Ku-band MMIC PA

Part Number	Freq(GHz)	SS Gain	P1dB	P3dB	Eff	Bias	ECCN
AM357039WM-00/SN	3.5-7.0	21dB	37dBm	38dBm	24%	14V	EAR99
AM559538WM-00/SN	5.5-9.5	24dB	37dBm	38dBm	25%	8V	3A001.b.2.b
AM07511542WM-00/SN	7.5-11.5	25dB	41dBm*	42dBm*	35%	8V	3A001.b.2.b
AM08011041WM-00/SN	8-11	28dB	39dBm*	40dBm*	25%	8V	3A001.b.2.b
AM09012541WM-00/SN	9-12.5	28dB	40dBm*	41dBm*	32%	8V	3A001.b.2.b
AM13516042WM-00/SO	13.5-16.0	22dB	15W	16W	32%	8V	3A001.b.2.b

*Pulsed, 10% duty cycle, 1mS pulse width

Power Amplifier Module (New)

Part Number	Freq(GHz)	SS Gain	P1dB	P3dB	Eff	Bias	ECCN
Universal Module							
AM206541UM-3H	2.0 – 6.5 GHz	26 dB	38 dBm	41 dBm	20 %	+28V	EAR99
AM018033UM-2H	0.1 – 8.0 GHz	19 dB	26 dBm	33 dBm	30 %	+28V	EAR99
AM07512041UM-2H	7.5 – 12.0 GHz	21 dB	38 dBm	41 dBm	20 %	+28V	EAR99
AM13516040UM-4H	13.5 – 16.0 GHz	21 dB	36 dBm	40 dBm	30 %	+8V	EAR99
GaN Modules							
AM004042SF-2H	0.05 – 4.0 GHz	23 dB	39 dBm	42 dBm	20 %	+40V	EAR99
AM006041SF-2H	0.03 – 6.0 GHz	18 dB	39 dBm	41 dBm	30 %	+32V	EAR99
AM206545SF-3H	2.0 – 6.5 GHz	28 dB	38.5 dBm	45 dBm	20 %	+32V	EAR99
AM07512043SF-2H	7.5 – 12.0 GHz	18 dB	40 dBm	43 dBm	15 %	+32V	EAR99
GaAs Modules							
AM687843SF-3H	6.5 – 8.0 GHz	30 dB	34 dBm	39 dBm	25 %	+32V	EAR99
AM687843SF-5H	6.8 – 7.8 GHz	43 dB	40 dBm	42 dBm	20 %	+32V	EAR99
AM07511040SF-3H	7.5 – 11.0 GHz	23 dB	39 dBm	40 dBm	20 %	+12V	EAR99
AM07511042SF-3H	7.5 - 11.0 GHz	21 dB	40 dBm	42 dBm	15 %	+12V	EAR99
AM09012040SF-3H	9 -12GHz	25 dB	39 dBm	40 dBm	20 %	+12V	EAR99
AM09012040SF-3H	9- 12GHz	24 dB	41 dBm	42 dBm	15 %	+12V	EAR99
AM13516040SF-4H	13.5 – 16.0 GHz	20 dB	36 dBm	40 dBm	20 %	+12V	EAR99
AM13516042SF-4H	13.5 – 16.0 GHz	19 dB	38 dBm	42 dBm	15 %	+12V	EAR99

Bias Tees

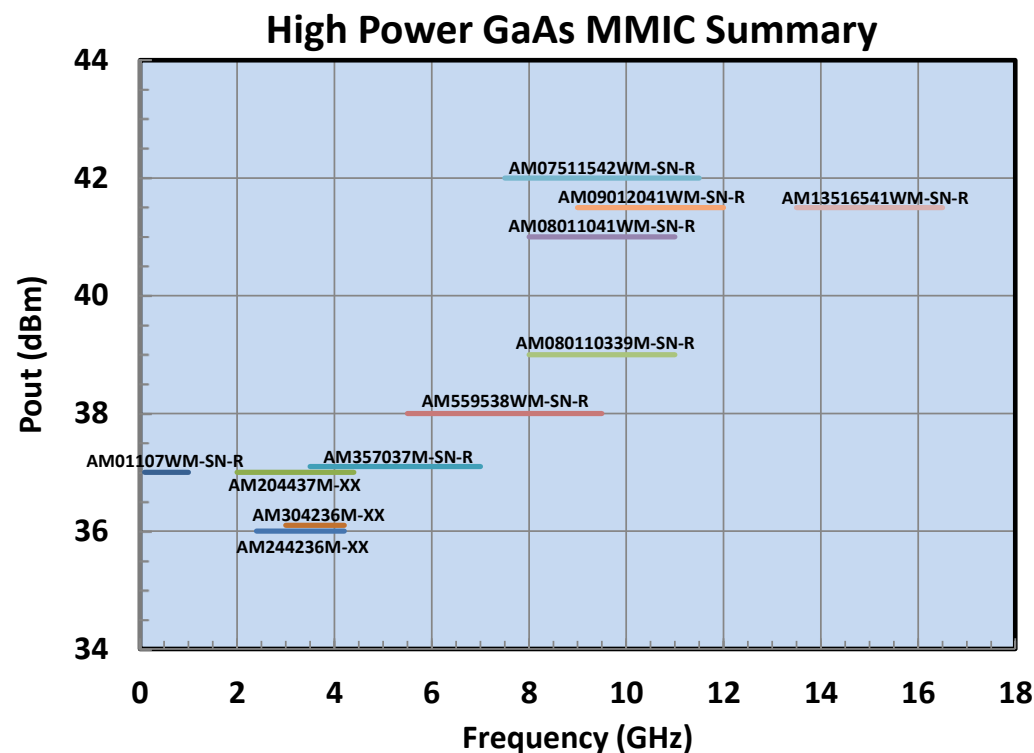
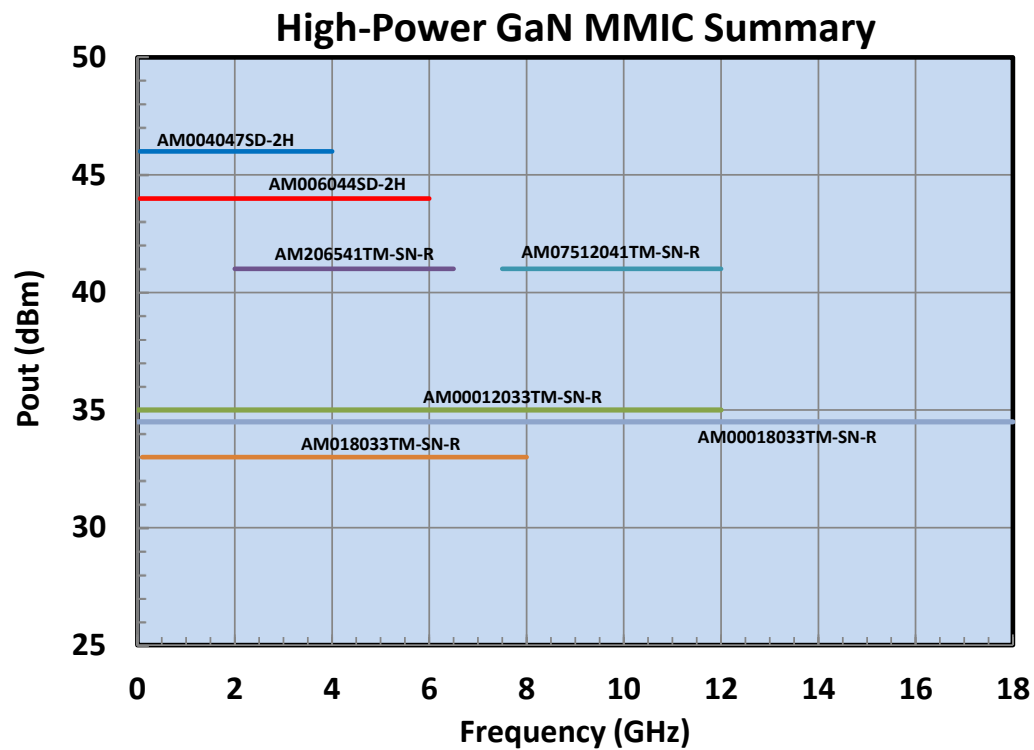
Part Number	Freq	Insertion Loss	Input Return	Output Return	DC Current	RF Power
AM000100PM-BT	0.05-10GHz	0.75dB	15dB	15dB	2.0Amp	33dBm
AM000110PM-BT	0.05-11GHz	0.75dB	17dB	17dB	2.0Amp	33dBm
AM000200PM-BT	300kHz-20GHz	0.75dB	20dB	20dB	0.8Amp	30dBm

SPDT T/R Switches

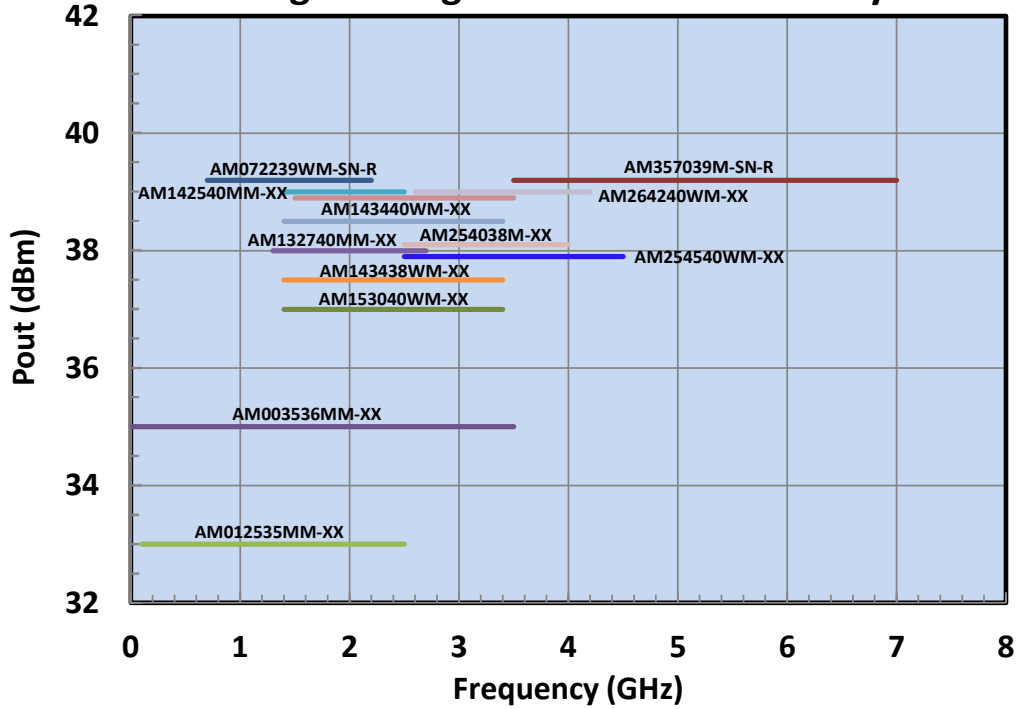
Part Number	Freq(GHz)	Insert loss	P1dB	P5dB	Effl	Bias	ECCN
AM00014040TM-00	DC-14	1.2dB	40dBm	-	-	-15V	EAR99
AM00011040TM-CM-R	DC-11	1.5dB	40dBm	-	-	-15V	EAR99
AM007040TM-CM-R	DC-7.0	1.0dB	40dBm	43dBm	-	-15V	EAR99

Note 1: All bias tees & switches are EAR99; no license required

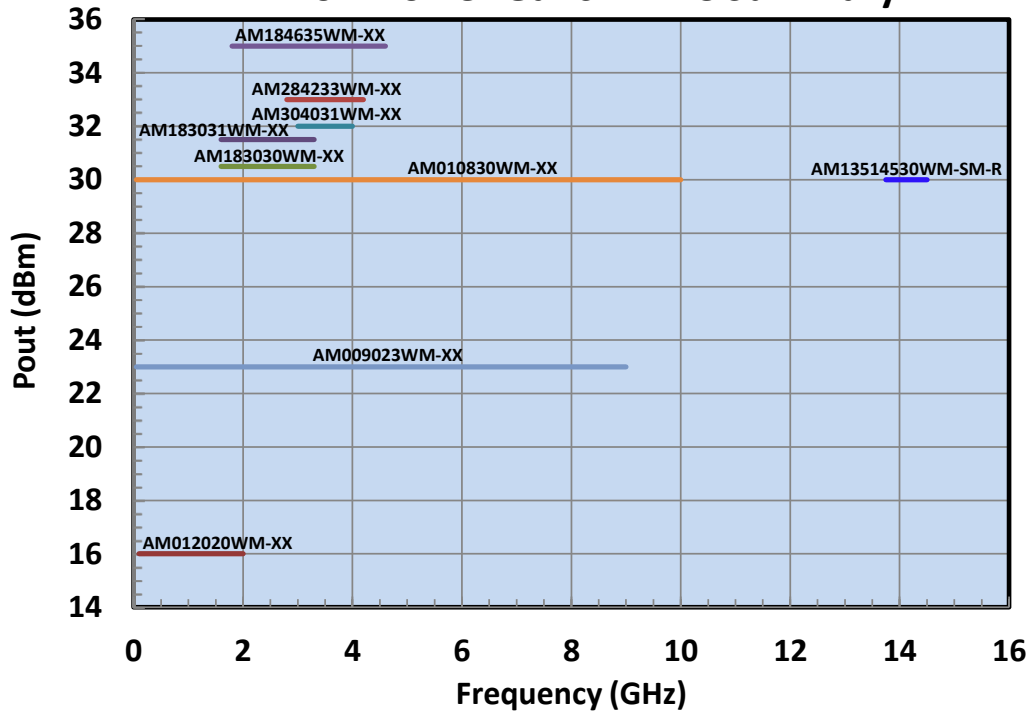
Section 3: MMIC PA & Module PA Summary Charts



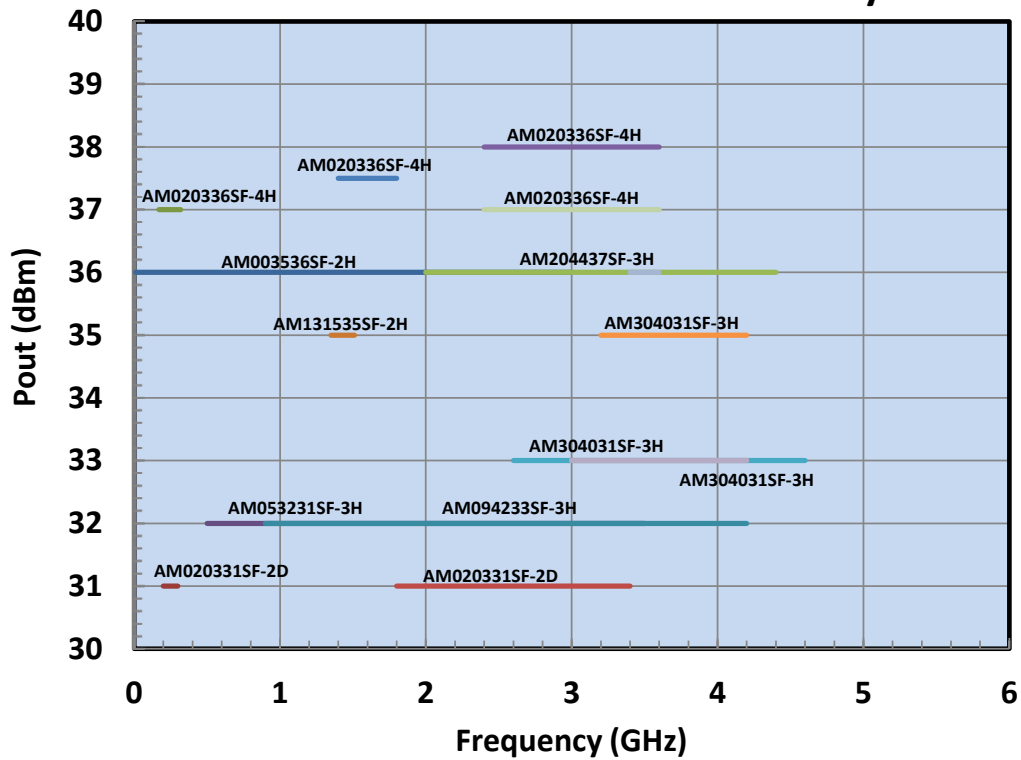
High-Voltage GaAs MMIC Summary



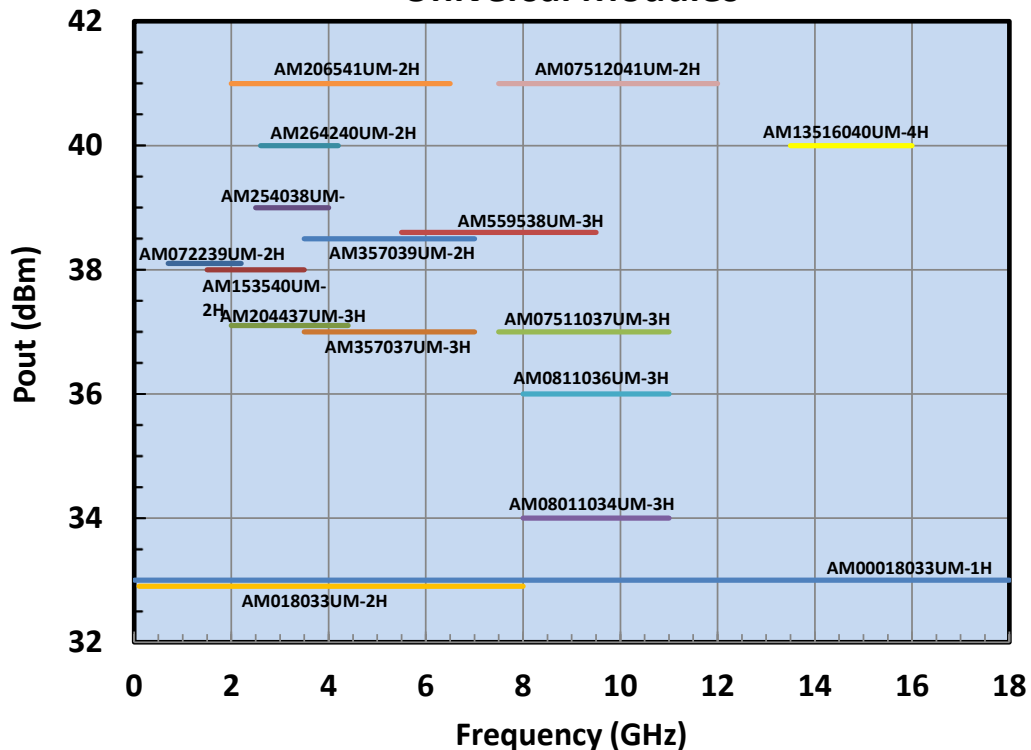
Low Power GaAs MMIC Summary



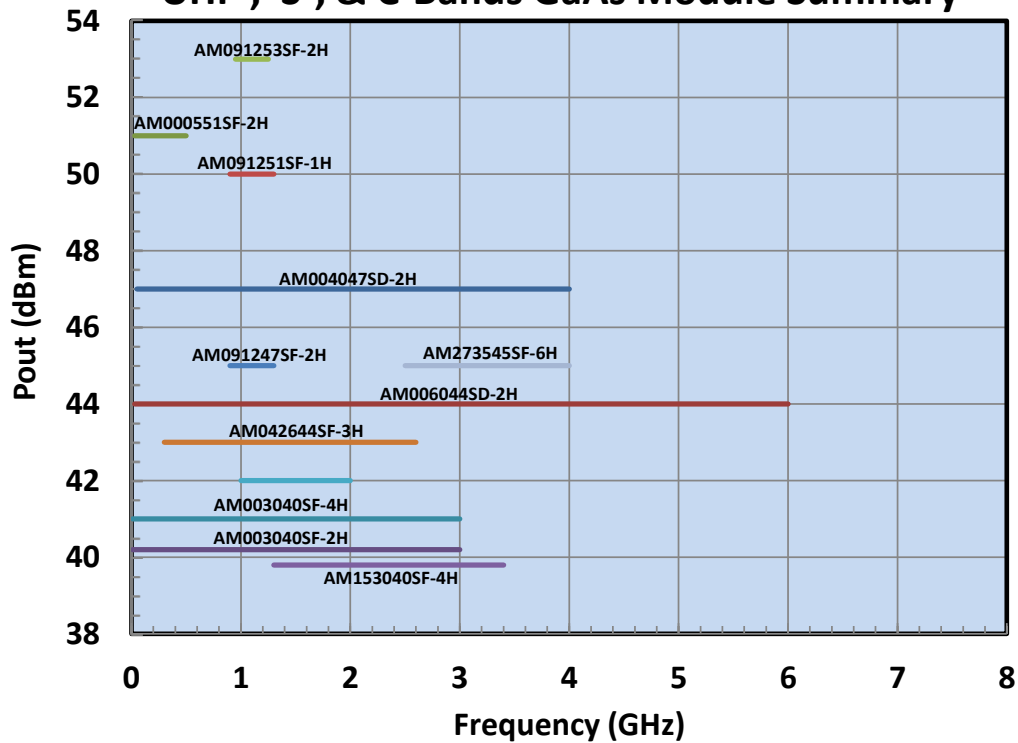
Medium-Power Module Summary



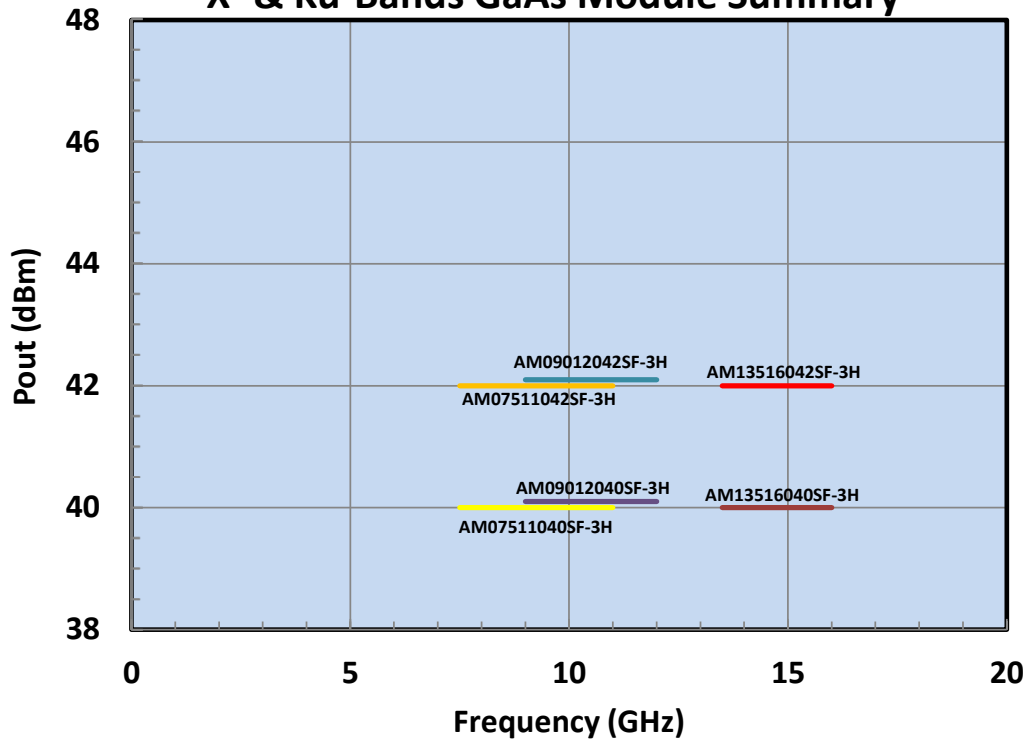
Universal Modules

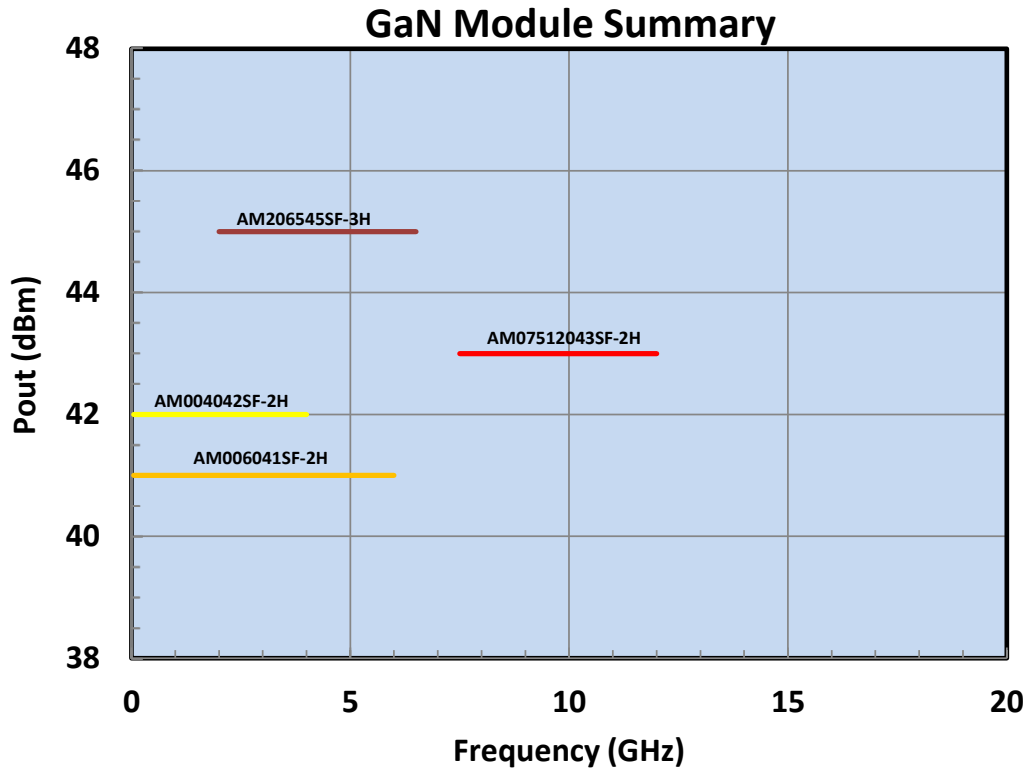


UHF-, S-, & C-Bands GaAs Module Summary



X- & Ku-Bands GaAs Module Summary





Section 4: Discrete Device

Discrete GaAs pHEMT Devices

Part Number	Frequency	Gain*	P _{1dB}	IP3	η	V _{ds}	I _{ds}	Package
AM005WX-BI-R	DC - 12GHz	16dB	25dBm	37dBm	55%	8V	150mA	Fig. 3
AM010WX-BI-R	DC - 12GHz	14dB	29.8dBm	38.5dBm	50%	8V	300mA	Fig. 3
AM030WX-BI-R	DC - 12GHz	12dB	34dBm	42dBm	50%	8V	450mA	Fig. 3
AM060WX-BI-R	DC-12GHz	12dB	35.5dBm	47dBm	50%	8V	900mA	Fig. 2
AM090WX-CU-R	DC-8GHz	8dB	38dBm	48dBm	45%	8V	1.2A	Fig. 1
AM120WX-CU-R	DC-6GHz	8dB	39dBm	39dBm	45%	8V	1.5A	Fig. 1
AM005WH2-BI-R	DC-12GHz	15dB	27dBm	37dBm	40%	14V	75mA	Fig. 2
AM010WH2-BI-R	DC-12GHz	15dB	30dBm	40dBm	50%	14V	150mA	Fig. 2
AM020WH2-BI-R	DC-12GHz	15dB	33dBm	43dBm	50%	14V	300mA	Fig. 2
AM030WH2-BI-R	DC-12GHz	15dB	35dBm	45dBm	45%	14V	450mA	Fig. 2
AM060WH2-BI-R	DC-10GHz	15dB	37dBm	47dBm	45%	14V	900mA	Fig. 2
AM120WH2-CU-R	DC-6GHz	14dB	39dBm	49dBm	45%	14V	1.6A	Fig. 1
AM005WH4-BI-R	DC-12GHz	15dB	29dBm	39dBm	45%	24V	75mA	Fig. 2
AM010WH4-BI-R	DC-12GHz	15dB	32dBm	42dBm	45%	24V	150mA	Fig. 2
AM020WH4-BI-R	DC-12GHz	15dB	35dBm	45dBm	40%	24V	300mA	Fig. 2
AM030WH4-BI-R	DC-12GHz	15dB	37dBm	49dBm	40%	24V	450mA	Fig. 2

* All RF data are measured at 2.0GHz or 3.5GHz

Discrete GaN/SiC HEMTs (Bare Die, low price)

Part Number	Freq(GHz)	G _{ss} (2GHz)	P _{5dB} (2GHz)	Eff	V _{ds}	ECCN
AM005WN-00-R	DC-18	23dB	33.4dBm	56%	28V	EAR99
AM012WN-00-R	DC-15	22dB	37.7dBm	55%	28V	EAR99
AM025WN-00-R	DC-15	21dB	40.5dBm	53%	28V	EAR99
AM050WN-00-R	DC-15	20dB	43.3dBm	51%	28V	EAR99
AM100WN-00-R	DC-15	19dB	46.1dBm	50%	28V	3A001.b.4.b

Discrete GaN/SiC HEMTs (Packaged, low price)

Part Number	Freq(GHz)	G _{ss}	P _{5dB}	Eff	V _{ds}	ECCN
AM005WN-BI-R	DC-12	15dB(3GHz)	33.5dBm(3GHz)	51%	28V	EAR99
AM012WN-BI-R	DC-10	15dB(3GHz)	37dBm(3GHz)	51%	28V	EAR99
AM025WN-BI-R	DC-8	14dB(3GHz)	40dBm(3GHz)	52%	28V	EAR99
AM050WN-CU-R	DC-6	16dB(2GHz)	43dBm(2GHz)	55%	28V	EAR99
AM100WN-CU-R	DC-6	14dB(2GHz)	46dBm(2GHz)	50%	28V	EAR99

Note 1: All discrete FETs are EAR99; no license required

Note 2: Part Number Key: WX: GaAs PHEMT; WH2: GaAs PHEMT 2 in-series; WH4: GaAs PHEMT 4 in-series; MX: GaAs MESFET; MH2: GaAs FET 2 in-series; MH4: GaAs FET 4 in-series

Note 3: See Section 10 for package outlines

Section 5: MMIC Power Amplifiers

GaAs MMIC PA

Model	Freq	Gain	P _{1dB}	IP3	η	V _{dd}	V _{gg}	ECCN
AM003536WM-BM/FM-R	0.01-3.5GHz	23dB	35dBm	48dBm	20%	20V	-1.00	EAR99
AM008030WM-BM/FM-R	0.05-10GHz	18dB	30dBm	48dBm	20%	12V	Idq=400	EAR99
AM009023WM-BM/FM-R	0.05-9GHz	22dB	22dBm	NF=4.5dB	--	12V	-0.65V	EAR99
AM072239WM-00/SN-R	0.7-2.2GHz	30dB	38dBm	P3dB=39	25%	28V	-0.9V	EAR99
AM011037WM-BM/FM-R	0.1-1.0GHz	30dB	37dBm	50dBm	50%	8V	-0.70	EAR99
AM012020WM-BM/FM-R	0.1-2.0GHz	30dB	16dBm	NF=2dB	--	8V	-1.20	EAR99
AM012535MM-BM/FM-R	0.03-2.5GHz	23dB	33dBm	45dBm	20%	20V	-2.80	EAR99
AM103026MM-BM/FM-R	0.9-3.2GHz	22dB	25dBm	43dBm	10%	14V	-2.00	EAR99
AM132740MM-BM/FM-R	1.3-2.7GHz	26dB	38dBm	51dBm	30%	14V	-0.60	EAR99
AM142540MM-BM/FM-R	1.4-1.8GHz	25dB	39dBm	50dBm	35%	14V	-0.86	EAR99
AM143440WM-BM/FM-R	1.4-3.4GHz	20dB	38dBm	44dBm	44%	12V	-0.90	EAR99
AM153040WM-BM/FM-R	1.4-3.4GHz	18dB	37dBm	43dBm	30%	12V	-0.90	EAR99
AM153540WM-BM/FM-R	1.5-3.5GHz	18dB	39dBm	48dBm	35%	14V	-0.95V	EAR99
AM183030WM-BM/FM-R	1.6-3.3GHz	30dB	30dBm	39dBm	25%	8V	-1.00	EAR99
AM184635WM-BM/FM-R	2.0-4.4GHz	30dB	36dBm	N/A	20%	8V	-0.76	EAR99
AM203033MM-BM/FM-R	2.0-3.5GHz	35dB	32dBm	41dBm	24%	8V	-1.0	EAR99
AM204437WM-BM/FM-R	2.0-4.4GHz	30dB	37dBm	N/A	25%	8V	-0.76	EAR99
AM244236WM-BM/FM-R	2.4-4.2GHz	31dB	36dBm	N/A	30%	8V	-0.76	EAR99
AM254038WM-BM/FM-R	2.5-4.0GHz	18dB	38dBm	45dBm	35%	12V	-0.90	EAR99
AM254540WM-BM/FM-R	2.5-4.5GHz	18dB	40dBm	53dBm	40%	12V	-1.00	EAR99
AM264240WM-BM/FM-R	2.6-4.2GHz	20dB	39dBm	49dBm	35%	14V	-0.95	EAR99
AM284233MM-BM/FM-R	2.8-4.2GHz	34dB	33dBm	40dBm	25%	8V	-0.70	EAR99
AM304031WM-BM/FM-R	2.6-4.6GHz	31dB	32dBm	40dBm	25%	8V	-0.70	EAR99
AM324036WM-BM/FM-R	3.0-4.2GHz	29dB	36dBm	45dBm	25%	8V	-0.70	EAR99
AM357037WM-00/SN-R	3.5-7.0GHz	26dB	36dBm	P3dB=37	24%	8V	-0.7	EAR99
AM357039WM-00/SN-R	3.5-7.0GHz	21dB	37dBm	P3dB=38.5	24%	14V	-0.70	EAR99
AM559538WM-00/SN-R	5.5-9.5GHz	24dB	37dBm	P3dB=38	25%	8V	-0.70	EAR99
AM07511542WM-00/SN-R*	7.5-11.5GHz	26dB	41dBm	P3dB=42	35%	8V	-2V	3A001.b.2
AM08011039WM-00/SN-R*	8-11GHz	22dB	38dBm	47dBm	22%	7V	-0.7V	3A001.b.2
AM08011041WM-00/SN-R*	8-11GHz	28dB	41dBm*	48dBm	25%	8V	-1.8V	3A001.b.2
AM13714530WM-SM-R	13.7-14.5	30dB	30dBm	40dBm	15%	8V	-0.80	EAR99

* Rated for pulsed application at 5% duty cycle

GaAs C-, X-, and Ku-band MMIC PA

Part Number	Freq(GHz)	SS Gain	P1dB	P3dB	Eff	Vd	ECCN
AM357039WM-00/SN-R	3.5-7.0	21dB	37dBm	38dBm	24%	14V	EAR99
AM559538WM-00/SN-R	5.5-9.5	24dB	37dBm	38dBm	25%	8V	3A001.b.2.b
AM07511542WM-00/SN-R	7.5-11.5	25dB	41dBm*	42dBm*	35%	8V	3A001.b.2.b
AM08011041WM-00/SN-R	8-11	28dB	39dBm*	40dBm*	25%	8V	3A001.b.2.b
AM09012541WM-00/SN-R	9-12.5	28dB	40dBm*	41dBm*	32%	8V	3A001.b.2.b
AM13516042WM-00/SO-R	13.5-16.0	22dB	15W	16W	32%	8V	3A001.b.2.b

*Pulsed, 10% duty cycle, 1mS pulse width

GaN/SiC MMICs

Part Number	Freq(GHz)	SS Gain	P1dB	P5dB	Eff	Vd	ECCN
AM018033TM-00/SN-R	0.1-8.0	19dB	26dBm	33dBm	12%	28V	EAR99
AM07512041TM-00/SN-R	7.5-12.0	21dB	38dBm	41dBm	20%	28V	3A001.b.2.b
AM206541TM-00/SN-R	2.0-6.5	26dB	38dBm	41dBm	20%	28V	EAR99
AM006044TM-00	0.03-6.0	21dB	42dbm	44dBm	30%	30V, 60V	3A001.b.2.b
AM004047TM-00	0.05-4.0	30dB	43dBm	46dBm	40%	25V, 90V	3A001.b.2.b

Note 1: All MMICs are RoHS Compliant

Note 2: Notation Terms: Gain is small signal gain; P_{1dB} is output power at 1dB compression; IP_3 is 3rd order intercept point; η is efficiency; V_{dd} is positive voltage; V_{gg} is negative voltage

Note 3: See Section 10 for package outlines

Section 6: Module PA

Universal Power Amplifier Modules (Low Price)*

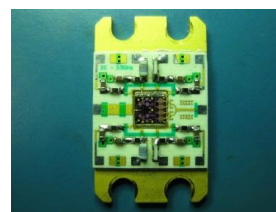
Model	Frequency	G _{SS}	P _{1dB}	P _{3dB}	η	V _{dd}	ECCN
AM072239UM-2H	0.7-2.2GHz	30dB	38dBm	39dBm	25%	28V	EAR99
AM153540UM-2H	1.5-3.5GHz	21dB	38dBm	39.5dBm	35%	14V	EAR99
AM204437UM-3H	2.0-4.4GHz	30dB	36dBm	37dBm	25%	8V	EAR99
AM254038UM-2H	2.5-4.0GHz	18dB	38dBm	39dBm	30%	12V	EAR99
AM264240UM-2H	2.6-4.2GHz	20dB	39dBm	40dBm	35%	14V	EAR99
AM357037UM-3H	3.5-7.0GHz	25dB	36dBm	37dBm	28%	8V	EAR99
AM357039UM-2H	3.5-7.0GHz	21dB	38dBm	38.5dBm	25%	14V	EAR99
AM559538UM-3H	5.5-9.5GHz	24dB	37dBm	38dBm	25%	8V	EAR99
AM07511037UM-3H	7.5-11.0GHz	25dB	33dBm	37dBm	30%	5V	EAR99
AM08011034UM-3H	8.0-11GHz	25dB	31dBm	34dBm	20%	5V	EAR99
AM08011036UM-3H	8.0-11GHz	28dB	32dBm	36dBm	25%	5V	EAR99
AM206541UM-3H	2.0 – 6.5 GHz	26 dB	38 dBm	41 dBm	20 %	+28V	EAR99
AM018033UM-2H	0.1 – 8.0 GHz	19 dB	26 dBm	33 dBm	30 %	+28V	EAR99
AM07512041UM-2H	7.5 – 12 GHz	21 dB	38 dBm	41 dBm	20 %	+28V	EAR99
AM13516040UM-4H	13.5 – 16.0 GHz	21 dB	36 dBm	40 dBm	30 %	+8V	EAR99

*Weight: 1.6oz (45g) , Size: 1.5(L)x1.2"(W)x0.58"(H) , all universal modules are EAR99; no license required

GaN Amplifier Modules

Part Number	Freq(GHz)	SS	P1dB	P5dB	Eff	Vd	ECCN
AM004042SF-2H	0.05 – 4.0	23 dB	39 dBm	42 dBm	20 %	+40V	EAR99
AM006040SF-2H	0.03 – 6.0	18 dB	39 dBm	41 dBm	30 %	+32V	EAR99
AM206545SF-3H	2.0 – 6.5	28 dB	38.5 dBm	45 dBm	20 %	+32V	EAR99
AM07512043SF-2H	7.5 – 12.0	18 dB	40 dBm	43 dBm	15 %	+32V	EAR99
AM004047SD-2H	0.05-4.0	30dB	40dBm**	45dBm	40%	25, 90V	EAR99
AM006044SD-2H	0.05-6.0	21dB	42dBm**	44dBm	35%	30, 60V	EAR99

** Pulsed, 10% duty cycle, 100uS pulse width



GaAs PA Modules

Model	Frequency	Gain	P _{1dB}	IP3	η	V _{dd}	V _{gg}	Wt	Size (in)
AM000551SF-2H	0.03-0.5GHz	26dB	125W	--	30%	28V	None	44 oz	8.84x1.54x0.914
AM003040SF-2H	0.01-3.0GHz	22dB	10W	50dBm	22%	24V	None	15.5 oz	6.4x4.04x0.66
AM003040SF-4H	0.01-3.0GHz	43dB	12W	55dBm	18%	24V	None	15.5 oz	6.0x3.6x0.66
AM003536SF-2H	0.01-3.5GHz	22dB	4W	49dBm	20%	24V	None	3 oz	2.84x2.04x0.56
AM020331SF-2D	0.2-0.3GHz	20dB	1.2W	41dBm	30%	7V	-5V	--	--
AM020336SF-4H	0.17-0.32GHz	60dB	5W	46dBm	45%	8V	None	4 oz	3.15x2.15x0.49
AM042644SF-3H	0.3-2.6GHz	35dB	20W	50dBm	33%	28V	None	9 oz	4.72x2.56x0.98
AM053231SF-3H	0.5-3.5GHz	20dB	1.6W	N/A	10%	15V	-5	12 oz	4.00x3.00x0.75
AM091247SF-2H	0.9-1.3GHz	20dB	30W	N/A	25%	31V, 7V	-5	--	8.63x3.00x1.120
AM091251SF-1H	0.9-1.3GHz	10dB	100W*	N/A	30%	31V	None	--	8.80x3.50x0.91
AM091253SF-2H	0.95-1.25GHz	20dB	200W*	N/A	25%	31V	None	--	14.76x6.0x1.12
AM091257SF-6H	0.95-1.25GHz	70dB	500W*	N/A	N/A	208V AC	None	--	See datasheet
AM094233SF-3H	0.9-4.2GHz	19dB	1.6W	N/A	10%	15V	-5	12 oz	4.00x3.00x0.75
AM131535SF-2H	1.35-1.51GHz	31dB	35dBm	45dBm	--	16.5V	-15V	--	1.3x6.7x0.67
AM141940SF-2H	1.4-1.8GHz	25dB	5.5W	50dBm	20%	16V	None	3 oz	2.80x2.00x0.56
AM153040SF-4H	1.3-3.4GHz	38dB	10W	46dBm	15%	15V	None	--	6.3x3.15x0.69
AM153042SF-4H	1.3-3.4GHz	37dB	15W	48dBm	17%	15V	None	--	6.3x3.15x0.69
AM183031SF-3H	1.8-3.4GHz	31dB	1.25W	38dBm	12%	12V	None	3oz	2.80x2.00x0.56
AM204437SF-3H	2.0-4.4GHz	30dB	4W	44dBm	15%	12V	None	3oz	2.80x2.00x0.56
AM243638SF-4H	2.4-3.6GHz	37dB	38dBm	45dBm	15%	13V	None	--	2.5x4x1.16
AM273545SF-6H	2.5-4.0GHz	52dB	44.5dBm	53dBm	--	12V	None	--	4.75x8.0x1.0
AM304031SF-3H	2.6-4.6GHz	29dB	31dBm	37dBm	12%	12V	None	--	2.0x2.8x0.56
AM304233SF-2H	3.0-4.2GHz	16dB	33dBm	40dBm	--	7V	-2V	--	1.11x2.1x0.59
AM324036SF-3H	3.2-4.2GHz	29dB	35dBm	43dBm	23%	12V	None	--	2.0x2.8x0.56
AM343635SF-2H	3.4-3.6GHz	18dB	36dBm	43dBm	--	7V	-2V	--	1.5x2.8x0.61
AM243638SF-3H	2.4-3.6GHz	37dB	6W	45dBm	20%	12-15V	--	10 oz	4.00x2.50x0.56
AM273545SF-6H	2.5-4.0GHz	50dB	30W	53dBm	20%	12V	None	40 oz	8.00x4.75x1.00
AM304031SF-3H	3.0-4.2GHz	16dB	2W	43dBm	24%	7V	-2	3 oz	2.10x1.11x0.59
AM324036SF-3H	3.0-4.2GHz	29dB	4W	43dBm	19%	12V	None	3 oz	2.80x2.00x0.56
AM343635SF-2H	3.4-3.6GHz	18dB	4W	45dBm	27%	7V	-2	3 oz	2.80x1.50x0.61

GaAs X-, Ku-Band PA Modules

Part Number	Freq(GHz)	SS	P1dB	P5dB	Eff	Vd	ECCN
AM07511040SF-3H	7.5 – 11.0	23 dB	39 dBm	40 dBm	20 %	+12V	EAR99
AM07511042SF-3H	7.5 - 11.0	21 dB	40 dBm	42 dBm	20 %	+12V	EAR99
AM09012040SF-3H	9 -12GHz	25 dB	39 dBm	40 dBm	20 %	+12V	EAR99
AM09012040SF-3H	9- 12GHz	24 dB	41 dBm	42 dBm	15 %	+12V	EAR99
AM13516040SF-4H	13.5 – 16.0 GHz	20 dB	36 dBm	40 dBm	25 %	+12V	EAR99
AM13516042SF-4H	13.5 – 16.0 GHz	19 dB	38 dBm	42 dBm	20 %	+12V	EAR99

Note 1: All modules are EAR99; no license required

Note 2: Notation Terms: Gain is small signal gain; P_{1dB} is output power at 1dB compression; $IP3$ is 3rd order intercept point; η is efficiency; V_{dd} is positive voltage; V_{gg} is negative voltage; Wt is weight

Section 7: Passive Components

Bias Tees

- All bias tees are EAR99; no license required

Part Number	Freq	Insertion Loss	Input Return	Output Return	DC Current	RF Power
AM000100PM-BT	0.05-10GHz	0.75dB	15dB	15dB	2.0A	30dBm
AM000110PM-BT	0.05-11GHz	0.75dB	17dB	17dB	2.0A	33dBm
AM000200PM-BT	300KHz-20GHz	0.75dB	20dB	20dB	0.8A	30dBm

SPDT T/R Switches

Part Number	Freq(GHz)	Insert loss	P1dB	P5dB	Effl	Vd	ECCN
AM00014040TM-00	DC-14	1.2dB	40dBm	-	-	-15V	EAR99
AM00011040TM-CM-R	DC-11	1.5dB	40dBm	-	-	-15V	EAR99
AM007040TM-CM-R	DC-7.0	1.0dB	40dBm	43dBm	-	-15V	EAR99

Voltage Controlled Variable Attenuators

- AR is attenuator range; IL is insertion loss; RL is return loss, MP is max power

Part number	Freq	AR	IL	RL	Bias	IP1dB	IIP3	MP (CW)	MP (12.5% duty)
AM0040PM-VVA	DC-4GHz	30dB	3.5dB	12dB	1-5V	33dBm	50dBm	27dBm	36dBm

Voltage Controlled Variable Phase Shifters

Part number	Freq	Phase shift	IL	IL variation	RL	Bias	IP1dB	IIP3	MP (CW)
AM2050PM-VVP	2-5GHz	90 deg	1.5dB	+/- 0.5dB	12dB	0-5V	33dBm	40dBm	36dBm

Section 8: Custom Design Services

Custom Design of Hybrid Circuits:

- Output power from a few watts to hundreds of watts.
- Frequencies from 1MHz - 10GHz.
- With RF and DC connectors, which are ready to be inserted into your system.
- Module, SMT, or drop-in carrier package.
- Including single DC voltage biasing, voltage regulation, temperature compensation, RF signal detection, self-protection circuitry, etc.
- Our engineers' design experience includes over 100 successfully developed power modules.
- Custom designed module provides form - function fit to your existing product.

Custom Design of MMIC Circuits:

- Power amplifiers, Low Noise Amplifiers, Phase Shifters, Attenuators, Up-converters, Down-converters, and Switches.
- Smart compact design in ceramic or plastic packages.
- Frequencies up to 40GHz.

Our design team has successfully developed over 50 MMIC circuits.

Section 9: Package Outlines

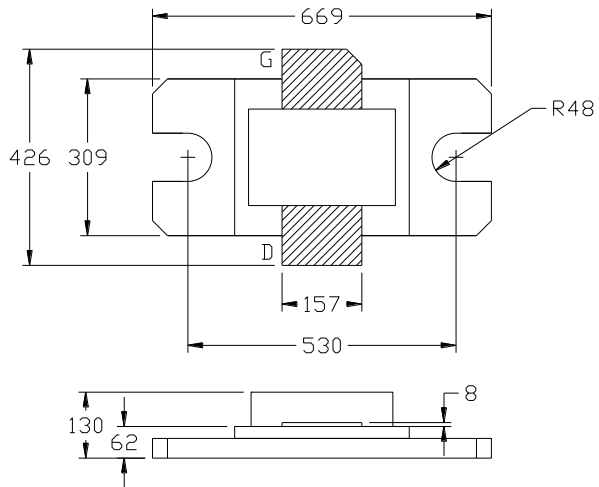


Fig. 1 – CU Package

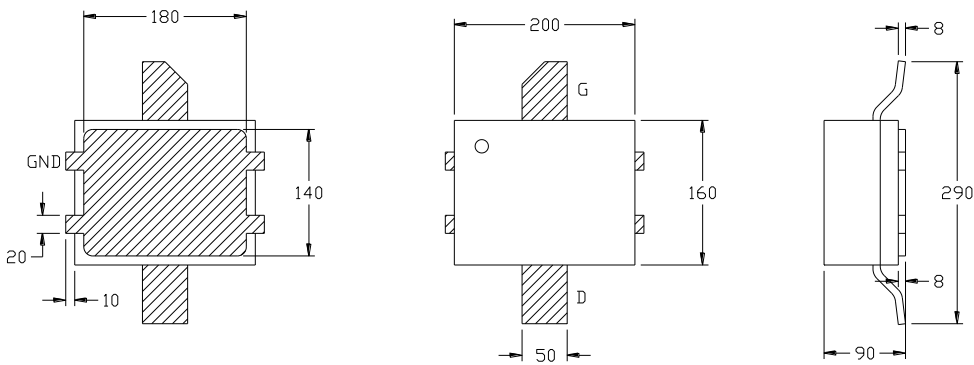


Fig. 2 – BI Package

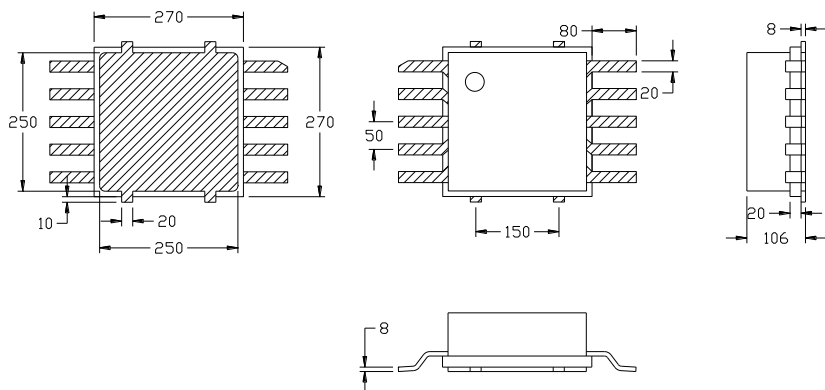


Fig. 3 – BM Package

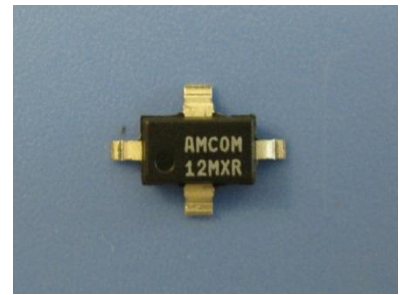
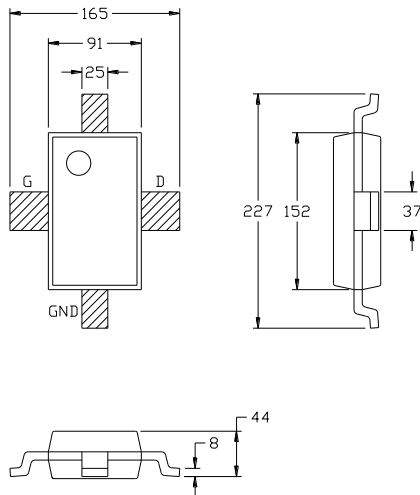


Fig. 8 – QG Package

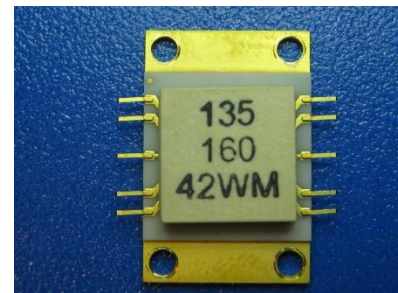
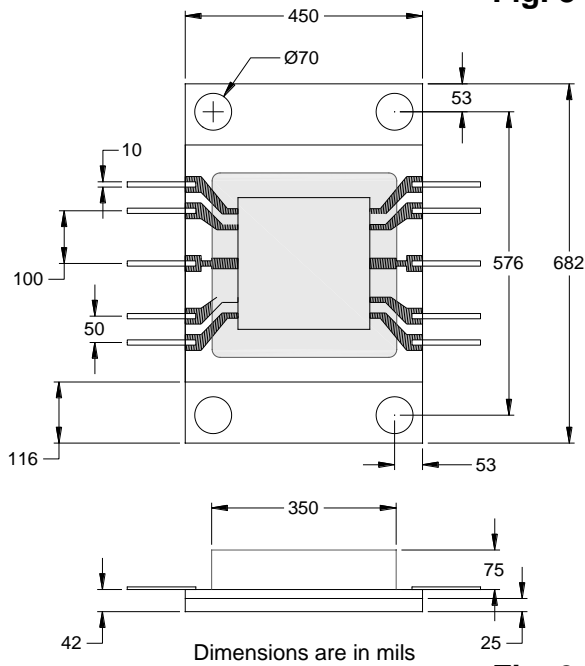


Fig. 9 – SO Package



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