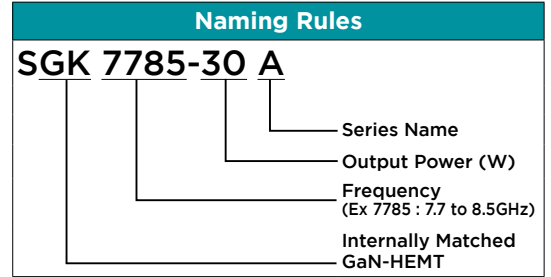


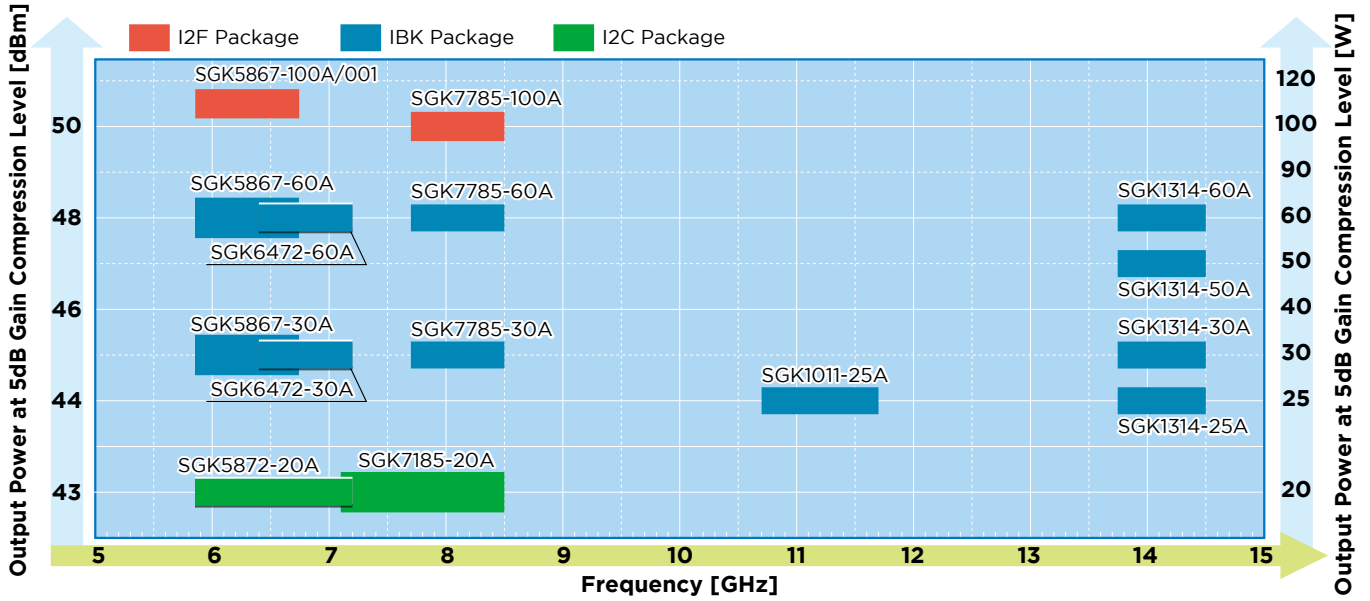
GaN HEMTs for Radio Link and SATCOM

Features

- High Output Power
- High Gain
- High Efficiency
- Internally Matched



GaN HEMTs for Satcom Lineup



Specifications

Part Number	Freq. (GHz)	IM3 (dBc)	SCL Pout (dBm)	Pout (dBm)	GL (dB)	η_{add} (%)	VDS (V)	IDS(DC) (A)	IDS(RF) (A)	Rth (°C/W)	Condition	Package
SGK5867-30A	5.85-6.75	-45	29.5	45	13.5	45	24	1.75	2.7	2.2	CW Operation	IBK
SGK5867-60A	5.85-6.75	-	32	48	12.5	40	24	2.6	5.4	1.3		
SGK5867-100A/001	5.85-6.75	-25	44	50.5	13.5	45	24	4	10	0.55		I2F
SGK5872-20A	5.85-7.2	-43	27.5	43	12	41	24	1.0	1.6	2.7		
SGK6472-30A	6.4-7.2	-45	29.5	45	12.5	40	24	1.75	2.7	2.2		IBK
SGK6472-60A	6.4-7.2	-	32	48	12	39	24	2.6	5.4	1.3		
SGK7185-20A	7.1-8.5	-43	27.5	43	11	39	24	1.0	1.7	2.7		I2C
SGK7785-30A	7.7-8.5	-45	29.5	45	12	39	24	1.75	2.7	2.2		
SGK7785-60A	7.7-8.5	-42	32	48	11	37	24	2.6	5.4	1.3		
SGK7785-100A	7.7-8.5	-25	44	50	12	42	24	4	10	0.55		I2F
SGK1011-25A	10.7-11.7	-42	29	44	10	33	24	1.2	2.7	1.9		
SGK1314-25A	13.75-14.5	-	-	44	8	29	24	0.75	2.5	1.8		
SGK1314-30A	13.75-14.5	-	-	45	8.5	32	24	0.9	3.3	1.5		
SGK1314-50A	13.75-14.5	-	-	47	8	29	24	1.5	5	1.3		
SGK1314-60A	13.75-14.5	-	-	48	8.5	32	24	1.8	6.6	0.8		

Note: Tc (op)=+25°C
IM3: 3rd Order Intermodulation Distortion

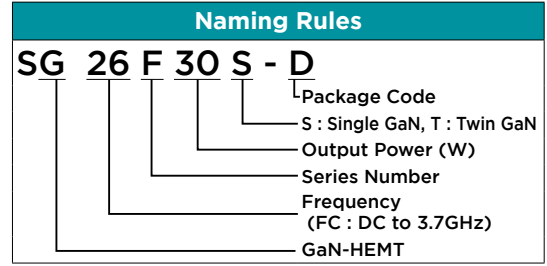
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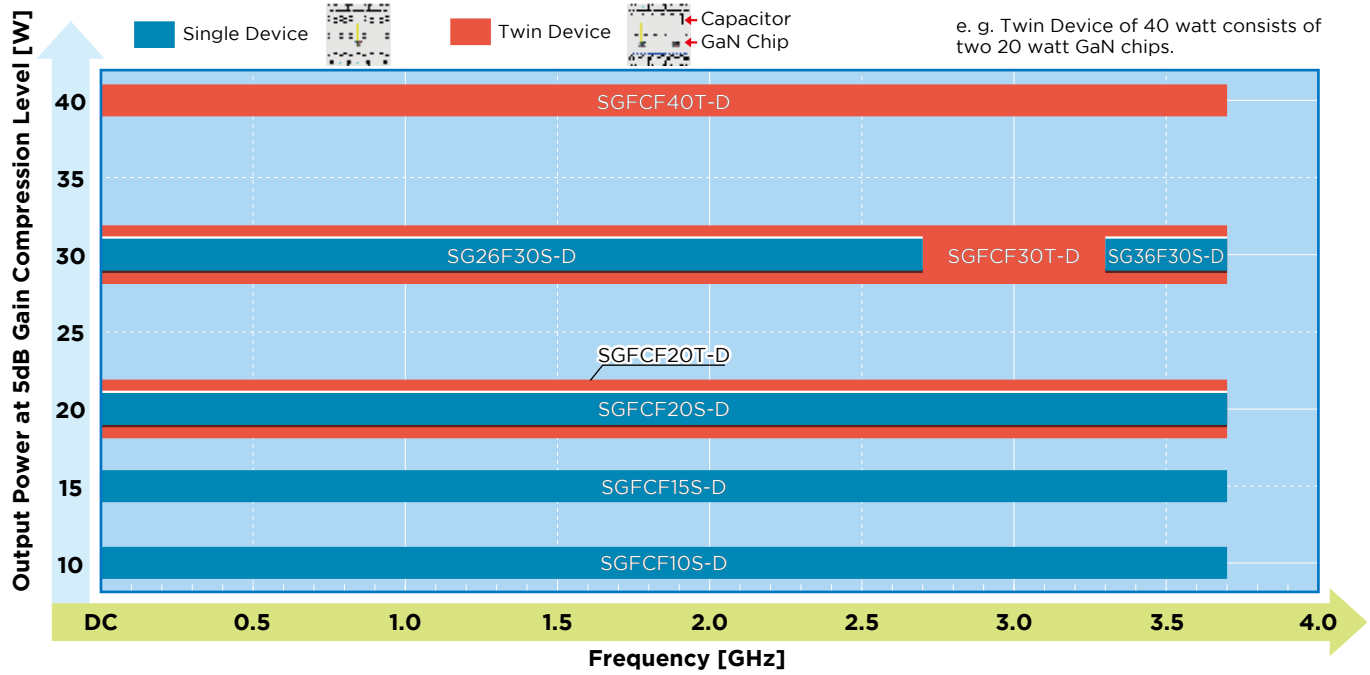
GaN HEMTs for Base Station

Features

- Designed for 3G/LTE/WiMAX Base Station
- Driver Stage for Macrocell & Final Stage for Microcell
- High Operating Voltage : 50V
- High Gain : $G_p=19\text{dB}$ @ $f=2.65\text{GHz}$, 20W (SGFCF20S-D)
- High Efficiency : 65% @ $f=2.65\text{GHz}$, 20W (SGFCF20S-D)
- Full Mold SMT Package (Z2D)



“F Series” Lineup



Specifications (Driver and Final Stage)

Part Number	Single / Twin	Freq. (GHz)	Specified Freq. (GHz)	P_{sat}^1 (dBm)	P_{out}^2 (dBm)	G_p^2 (dB)	η_d^2 (%)	VDS (V)	IDS(DC) (mA)	R_{th}^3 (°C/W)	Package
SG26F30S-D	Single	DC-2.7	2.65	46	32.5	18.5	13.5	50	150	5.5	Z2D
SGFCF10S-D	Single	DC-3.7	2.65	41	27.5	19.5	13.5	50	50	10	
SGFCF15S-D	Single	DC-3.7	2.65	42.5	29	19.5	13.5	50	75	9	
SGFCF20S-D	Single	DC-3.7	2.65	44	30.5	19	13.5	50	100	7	
SGFCF20T-D *4	Twin	DC-3.7	2.65	41	27.5	19.5	13.5	50	50	10	
SGFCF30T-D *4	Twin	DC-3.7	2.65	42.5	29	19.5	13.5	50	75	9	
SGFCF40T-D *4	Twin	DC-3.7	2.65	44	30.5	19	13.5	50	100	7	
SG36F30S-D	Single	3.3-3.7	3.6	45.5	32	17	12.5	50	150	5.5	

*1:10%-duty RF pulse(DC supply constant)

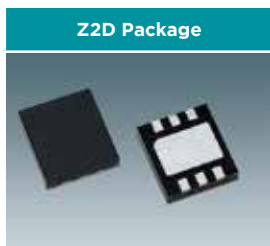
*2: $P_{out}=(Ave.)$, W-CDMA(3GPP3.4 12-00)BS-1 64ch 85% clipping modulation(PAR=8.5dB@0.01%)

*3:Sampling Test : samples size 10pcs. Criteria(accept / reject)=(0 / 1)

*4:Specification of one path

Note: $T_c (op)=+25^\circ\text{C}$

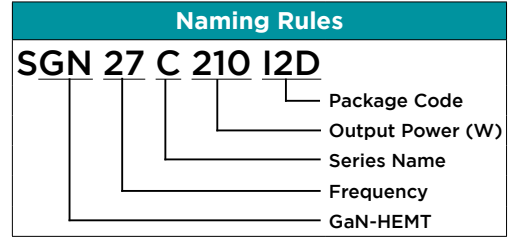
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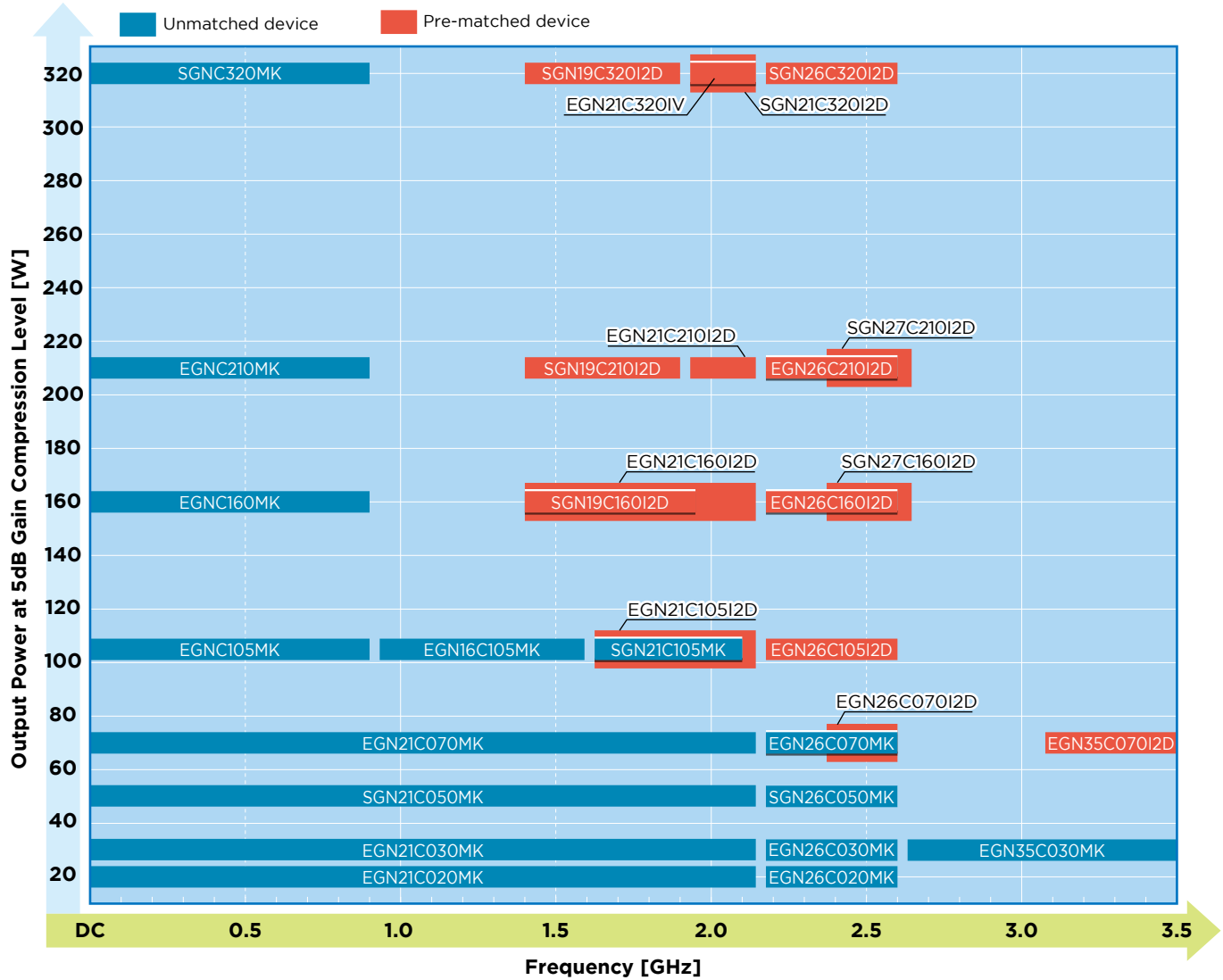
GaN HEMTs for Base Station

Features

- Designed for 3G/LTE/WiMAX Base Station
- Optimized for Doherty Architecture
- Higher Load Impedance: 15 to 20Ω @Final Stage (Easy Match, Wide Band)
- High Operating Voltage: 50V
- High Power: Up to 320W Psat Single Ended
- High Gain: Gp=16dB @f=2.6GHz, 210W Device
- High Efficiency: 60-70% with Internal Class F Matching



“C Series” Lineup



Specifications (Driver Stage)

Part Number	Freq. (GHz)	Psat ^{*1} (dBm)	Pout ^{*2} (dBm)	Gp ^{*2} (dB)	ηd ^{*2} (%)	VDS (V)	IDS (DC) (mA)	Rth (°C/W)	Package
EGN21C020MK	2.14	43.5	30	19	12.5	50	100	6.0	MK
EGN21C030MK	2.14	45.0	31.5	19	12.5	50	150	5.0	
EGN26C020MK	2.6	43.5	30	18	12.5	50	100	6.0	
EGN26C030MK	2.6	45.0	31.5	18	12.5	50	150	5.0	
EGN35C030MK	3.5	45.0	31.5	16.5	11	50	150	5.0	

*1: 10%-duty RF pulse(DC supply constant)

*2: Pout=(Ave.), CW

Note: Tc (op)=+25°C

Specifications (Final Stage)

Part Number	Freq. (GHz)	Psat ^{*1} (dBm)	Pout (dBm)	Gp (dB)	η_d (%)	VDS (V)	IDS (DC) (mA)	Rth (°C/W)	Package
EGNC105MK	0.9	51.0	43.0 ^{*3}	20.0 ^{*3}	35 ^{*3}	50	400	2.0	MK
EGNC160MK	0.9	52.5	44.5 ^{*3}	18.0 ^{*3}	35 ^{*3}	50	600	1.4	
EGNC210MK	0.9	53.5	45.5 ^{*3}	17.5 ^{*3}	35 ^{*3}	50	750	1.1	
EGN16C105MK	1.6	50.5	42.5 ^{*3}	19.0 ^{*3}	33 ^{*3}	50	400	2.0	I2D
SGN19C210I2D	1.9	53.0	45.0 ^{*3}	18.5 ^{*3}	32 ^{*3}	50	750	1.1	
SGN19C160I2D	1.96	52.3	44.5 ^{*3}	18.0 ^{*3}	35 ^{*3}	50	600	1.4	
SGN21C105MK	2.1	50.3	42.5 ^{*3}	17.0 ^{*3}	32 ^{*3}	50	400	2.0	MK
EGN21C070MK	2.14	49.5	41.5 ^{*3}	17.0 ^{*3}	33 ^{*3}	50	300	2.5	
EGN21C105I2D	2.14	50.3	42.0 ^{*2}	18.0 ^{*2}	32 ^{*2}	50	400	2.0	I2D
EGN21C160I2D	2.14	52.5	44.5 ^{*2}	18.0 ^{*2}	32 ^{*2}	50	600	1.4	
EGN21C210I2D	2.14	53.0	45.0 ^{*2}	18.0 ^{*2}	32 ^{*2}	50	750	1.1	
EGN21C320IV	2.14	55.0	47.0 ^{*2}	18.0 ^{*2}	31 ^{*2}	50	1100	0.8	IV
SGN21C050MK	2.14	47.0	39.0 ^{*3}	18.5 ^{*3}	33 ^{*3}	50	200	3.0	MK
EGN26C070I2D	2.6	48.8	40.8 ^{*3}	18.0 ^{*3}	35 ^{*3}	50	300	2.5	I2D
EGN26C070MK	2.6	48.8	40.8 ^{*3}	16.5 ^{*3}	30 ^{*3}	50	300	2.5	MK
EGN26C105I2D	2.6	50.3	42.0 ^{*3}	17.0 ^{*3}	32 ^{*3}	50	400	2.0	I2D
EGN26C160I2D	2.6	52.5	44.5 ^{*3}	16.0 ^{*3}	30 ^{*3}	50	600	1.4	
EGN26C210I2D	2.6	53.0	45.0 ^{*3}	16.0 ^{*3}	30 ^{*3}	50	750	1.1	
SGN26C050MK	2.6	47.0	39.0 ^{*3}	17.5 ^{*3}	33 ^{*3}	50	200	3.0	MK
SGN27C160I2D	2.65	52.5	44.5 ^{*3}	16.3 ^{*3}	30 ^{*3}	50	600	1.4	I2D
SGN27C210I2D	2.65	53.0	45.0 ^{*3}	16.3 ^{*3}	30 ^{*3}	50	750	1.1	
EGN35C070I2D	3.5	48.8	40.8 ^{*3}	15.5 ^{*3}	28 ^{*3}	50	300	2.5	

*1: 10%-duty RF pulse(DC supply constant)

*2: Pout=(Ave.), f0=2.135GHz, f1=2.145GHz, W-CDMA (3GPP3.4 12-00) BS-1 64ch 47.5% clipping modulation (PAR=8.5dB@0.01%)

*3: Pout=(Ave.), W-CDMA (3GPP3.4 12-00) BS-1 64ch 65% clipping modulation (PAR=8.5dB@0.01%)

Note: Tc (op)=+25°C

Specifications (Peak Stage of Doherty Amplifier)

Part Number	Freq. (GHz)	Psat ^{*1} (dBm)	Gp ^{*2} (dB)	VDS (V)	Rth (°C/W)	Package
SGNC320MK	0.9	55.0	16.5	50	1.2	MK
SGN19C320I2D	1.9	55.0	18	50	1.2	I2D
SGN21C320I2D	2.14	55.0	17.5	50	1.2	
SGN26C320I2D	2.6	55.0	16	50	1.2	

*1: 10%-duty RF pulse (DC supply constant : IDS(DC)=10mA)

*2: Pout=3dB back off point, 10%-duty RF pulse (DC supply constant : IDS(DC)=10mA)

Note: Tc (op)=+25°C

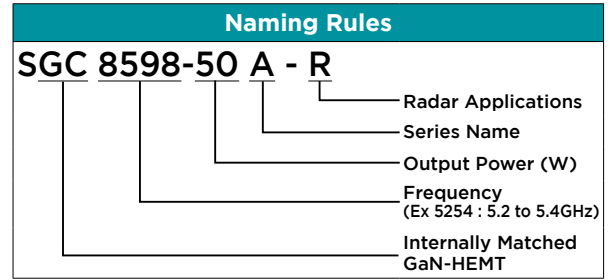
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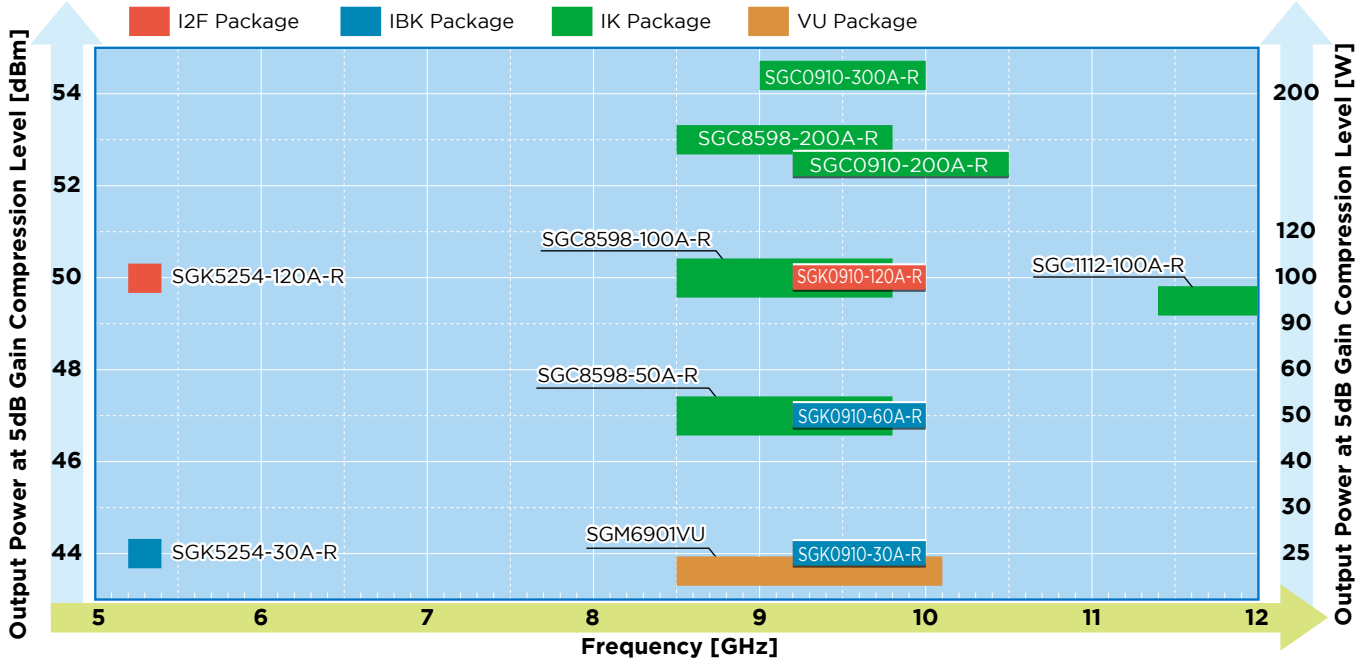
GaN HEMTs for Radar C/X

Features

- High Output Power
- High Gain
- High Efficiency
- Internally Matched



GaN HEMTs for Radar C/X Lineup

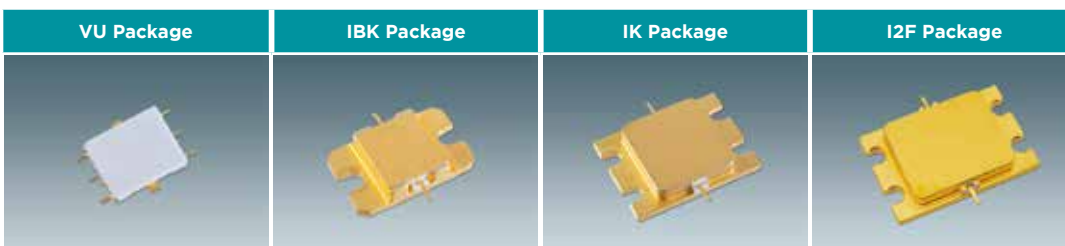


Specifications

Part Number	Freq. (GHz)	Pout (dBm)	Gp (dB)	η_{add} (%)	VDS (V)	IDS(RF) (A)	Rth (°C/W)	Condition	Package
SGK5254-30A-R	5.2-5.4	44	15	49	24	2.8	2.2	Pulse Width:100μsec,Duty:10%	IBK
SGK5254-120A-R	5.2-5.4	50	15	47	24	11.6	0.65		I2F
SGC8598-50A-R	8.5-9.8	47	10	40	50	2.8	2.4		IK
SGC8598-100A-R	8.5-9.8	50	9	40	50	5.7	1.4		IBK
SGC8598-200A-R	8.5-9.8	53	9	38	50	11.8	0.6		
SGK0910-30A-R	9.2-10	44	10.5	35	24	3	2.2		I2F
SGK0910-60A-R	9.2-10	47	10.5	35	24	5.9	1.1		
SGK0910-120A-R	9.2-10	50	10	35	24	11.6	0.65		IK
SGC0910-200A-R	9.2-10.5	52.5	8.5	38	50	11.8	0.6		
SGC0910-300A-R	9.0-10.0	54.3	8.3	35	50	17.1	0.7		VU
SGC1112-100A-R	11.4-12.0	49.5	7.5	36	50	6.1	1.4		
SGM6901VU	8.5-10.1	43.8	23.3	38	50	1.8	2.1		

Note: Tc (op)=+25°C

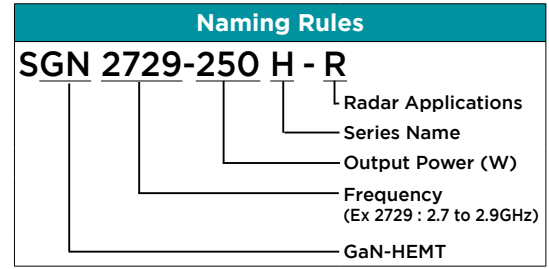
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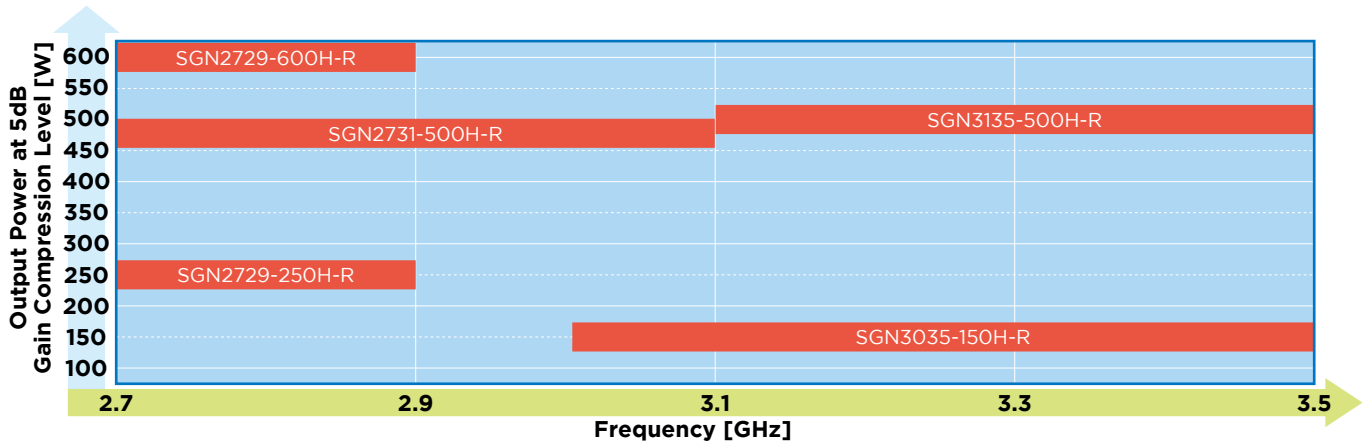
GaN HEMTs for Radar L/S

Features

- Designed for S-band Radar Applications
- 50 ohm matched
- High Power: Up to 600W
- High Efficiency: 65%
- High Operating Voltage: 50V
- Broadband Operation
- High Gain
- Low Thermal Resistance (Rth)



GaN HEMTs for Radar L/S Lineup



Specifications

Part Number	Freq. (GHz)	Pout (W)	Gp (dB)	η_{add} (%)	VDS (V)	IDS (DC) (mA)	Rth (°C/W)	Condition	Package
SGN1214-220H-R	1.2-1.4	220	16.9	65	50	1000	0.55	Pulse Width:5msec, Duty:10%	IV
SGN21-120H-R	1.7-2.5*	125	14.5	67.5	50	500	1.1		
SGN2729-250H-R	2.7-2.9	250	13	65	50	750	1.1	Pulse Width:200µsec, Duty:10%	
SGN2729-600H-R	2.7-2.9	600	12.8	60	50	1500	0.55		
SGN2731-500H-R	2.7-3.1	480	11.8	57	50	1500	0.55	Pulse Width:5msec, Duty:10%	
SGN3035-150H-R	3.0-3.5	150	12.8	62	50	500	1.1		
SGN3135-500H-R	3.1-3.5	500	11.0	58	50	1500	0.55	Pulse Width:200µsec, Duty:10%	

*: Test Frequency 2.1GHz
 Note: Tc (op)=+25°C

Specifications (Driver Stage)

Part Number	Freq. (GHz)	P3dB (dBm)	GL (dB)	η_{add} (%)	VDS (V)	IDS (DC) (mA)	Rth (°C/W)	Package
SGFCF2002S-D	3.0	43.6	28.6	45	50	135	3.8	Z2D
SGN31E030MK	3.1	46	15	40	50	200	2	MK
SGNE010MK	3.5	40.5	16	55	50	100	4.5	

Note: Tc (op)=+25°C

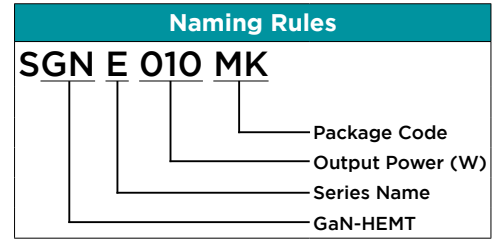
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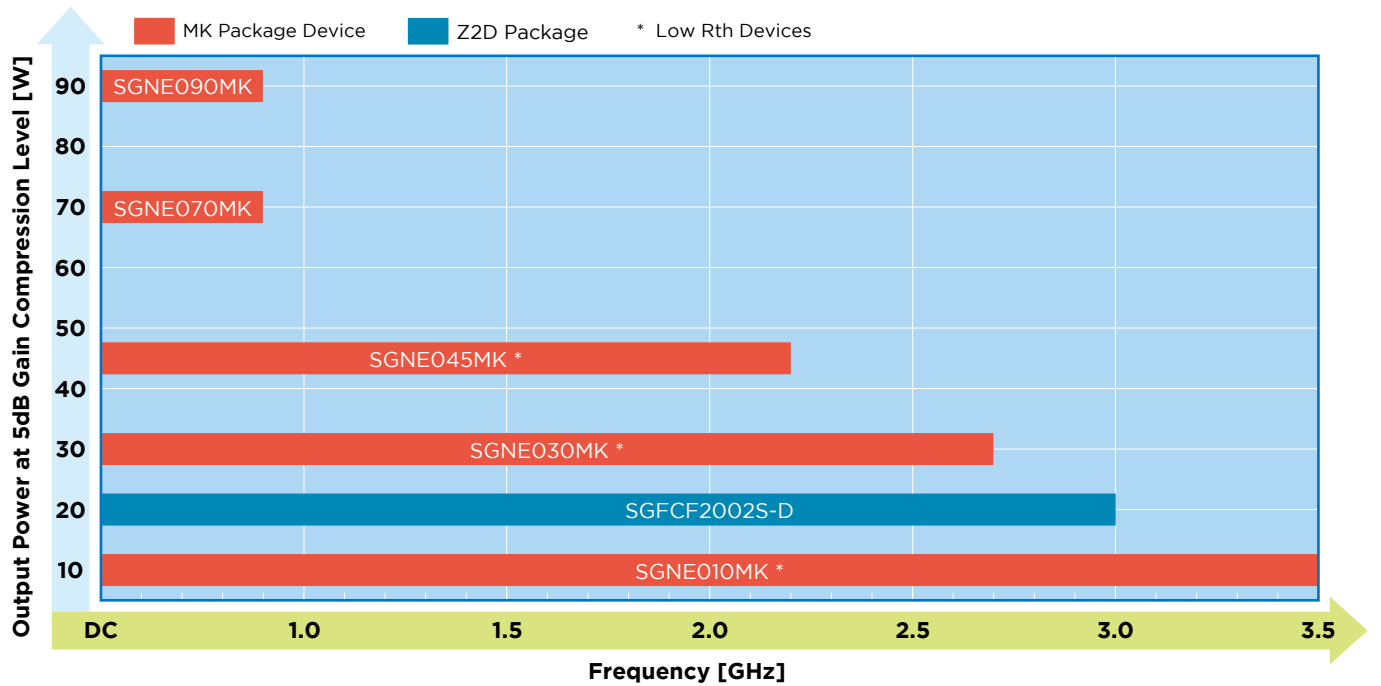
GaN HEMTs for General Purpose

Features

- Unmatched Broadband Operation up to 3.5GHz
- High Efficiency
- 50V Operation
- Low Thermal Resistance (Rth)



Lineup



Specifications

Part Number	Freq. (GHz)	Psat (dBm)	GL (dB)	η_{add} (%)	IDS (DC) (mA)	Rth ($^{\circ}\text{C}/\text{W}$)	Package
SGNE070MK	0.9	49.5	20	65	400	1.5	MK
SGNE090MK	0.9	51.0	20	65	500	1.2	
SGNE045MK	2.2	47.5	15	55	250	1.4	
SGNE030MK	2.7	46.5	16	55	200	2	
SGFCF2002S-D	3.0	42.5	25.5	44	135	3.8	Z2D
SGNE010MK	3.5	40.5	16	55	100	4.5	MK

Note: Tc=+25°C

Product Photo

