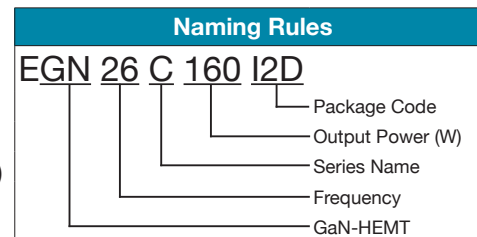


GaN HEMTs (High Electron Mobility Transistors)

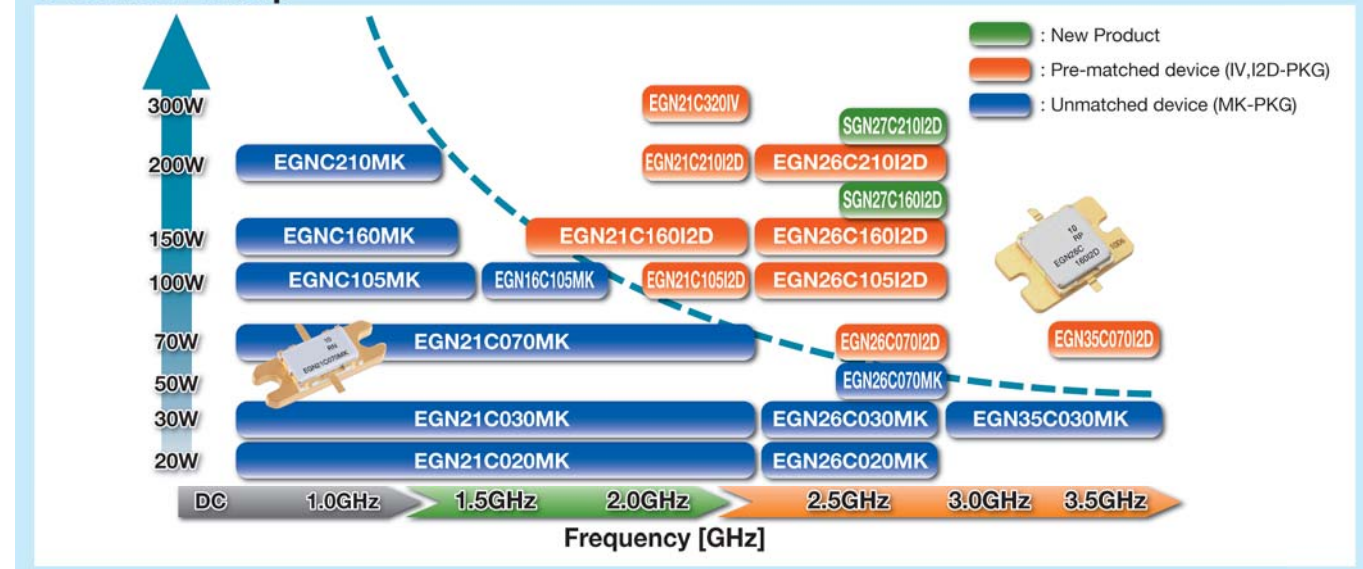
For Base Station (C Series)

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 (Final Stage)

Part Number	Frequency (GHz)	Psat ¹ Typ. (dBm)	Pout (Ave.) Typ. (dBm)	GP Typ. (dB)	η@Pout (Ave.) Typ. (%)	IDS (DC) (mA)	Rth Typ. (°C/W)	Outline/Package Code
EGNC105MK	0.9	51.0	43.0 ³	20.0 ³	35 ³	400	2.0	MK
EGNC160MK	0.9	52.5	44.5 ³	18.0 ³	35 ³	600	1.4	
EGNC210MK	0.9	53.5	45.5 ³	17.5 ³	35 ³	750	1.1	
EGN16C105MK	1.6	50.5	42.5 ³	19.0 ³	33 ³	400	2.0	
EGN21C070MK	2.14	49.5	41.5 ³	17.0 ³	33 ³	300	2.5	I2D
EGN21C105I2D	2.14	50.3	42.0 ²	18.0 ²	32 ²	400	2.0	
EGN21C160I2D	2.14	52.5	44.5 ²	18.0 ²	32 ²	600	1.4	
EGN21C210I2D	2.14	53.0	45.0 ²	18.0 ²	32 ²	750	1.1	
EGN21C320IV	2.14	55.0	47.0 ²	18.0 ²	31 ²	1100	0.8	IV
EGN26C070MK	2.6	48.8	40.8 ³	16.5 ²	30 ²	300	2.5	MK
EGN26C070I2D	2.6	48.8	40.8 ³	18.0 ³	35 ³	300	2.5	I2D
EGN26C105I2D	2.6	50.3	42.0 ³	17.0 ³	32 ³	400	2.0	
EGN26C160I2D	2.6	52.5	44.5 ³	16.0 ³	30 ³	600	1.4	
EGN26C210I2D	2.6	53.0	45.0 ³	16.0 ³	30 ³	750	1.1	
SGN27C160I2D	2.65	52.5	44.5 ³	16.3 ³	30 ³	600	1.4	
SGN27C210I2D	2.65	53.0	45.0 ³	16.3 ³	30 ³	750	1.1	
EGN35C070I2D	3.5	48.8	40.8 ³	15.5 ³	28 ³	300	2.5	

*1: 10%-duty RF pulse
 *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 85% clipping modulation (PAR=8.5dB@0.01%)
 Note: Tc (op)=+25°C

GaN HEMTs (High Electron Mobility Transistors)

Specifications (Driver Stage)

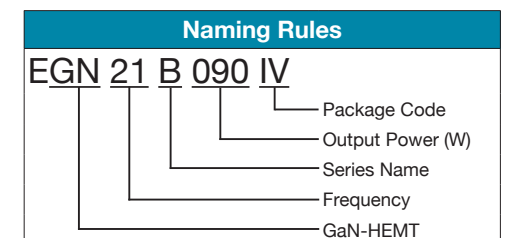
Part Number	Frequency (GHz)	Psat ¹ Typ. (dBm)	Pout ² (Ave.) Typ. (dBm)	GP ² Typ. (dB)	η ² @Pout (Ave.) Typ. (%)	IDS (DC) (mA)	Rth Typ. (°C/W)	Outline/Package Code
EGN21C020MK	2.14	43.5	30.0	19.0	12.5	100	6.0	MK
EGN21C030MK	2.14	45.0	31.5	19.0	12.5	150	5.0	
EGN26C020MK	2.6	43.5	30.0	18.0	12.5	100	6.0	
EGN26C030MK	2.6	45.0	31.5	18.0	12.5	150	5.0	
EGN35C030MK	3.5	45.0	31.5	16.5	11.0	150	5.0	

*1: 10%-duty RF pulse
 *2 : Pout=(Ave.), CW
 Note: Tc (op)=+25°C

For Base Station (B Series)

Features

- Designed for 3G/LTE Base Station and Optimised for Straight Amplifier Architecture
- Higher Load Impedance: Around 10Ω (Easy Match, Wide Band)
- High Operating Voltage: 50V
- High Power: Up to 180W
- High Efficiency
- Low Thermal Resistance (Rth)

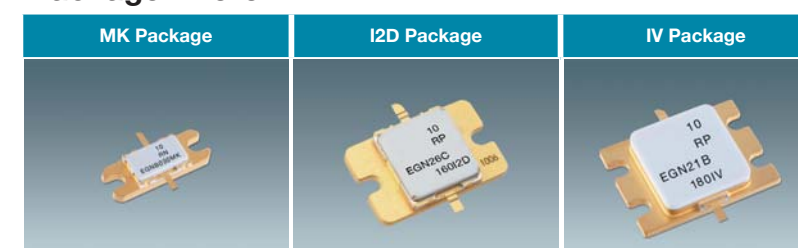


Specifications

Part Number	Frequency (GHz)	Psat ¹ Typ. (dBm)	Pout (Ave.) Typ. (dBm)	GP Typ. (dB)	η@Pout (Ave.) Typ. (%)	IDS (DC) (mA)	Rth Typ. (°C/W)	Outline/Package Code
EGN21B090IV	2.14	50.0	42.0 ²	16.0 ²	33 ²	500	1.2	IV
EGN21B180IV	2.14	53.0	45.0 ²	16.0 ²	32 ²	1000	0.6	

*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 85% clipping modulation (PAR=8.5dB@0.01%)
 Note: Tc (op)=+25°C

Package Photo

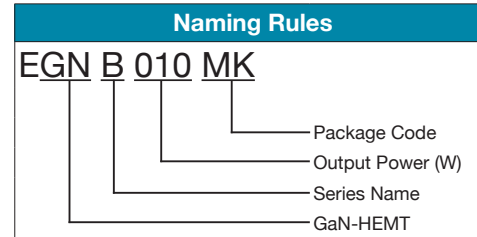


GaN HEMTs (High Electron Mobility Transistors)

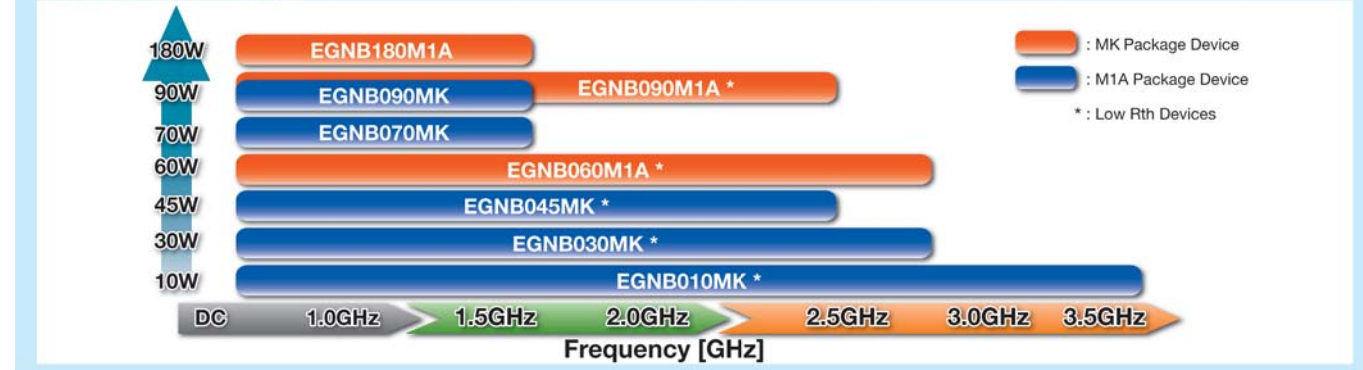
For General Purpose (B series)

Features

- Higher Load Impedance: 5Ω to 20Ω (Easy Match, Wide Band)
- High Operating Voltage: 50V
- High Power: Up to 180W P3dB
- High Efficiency
- Low Thermal Resistance (Rth)



B Series Lineup



Specifications

Part Number	Frequency (GHz)	P3dB Typ. (dBm)	GL Typ. (dB)	η@P3dB Typ. (%)	IDS (DC) (mA)	Rth Typ. (°C/W)	Outline/Package Code
EGNB010MK	3.5	41.0	13.0	60	100	4.5	MK
EGNB030MK	2.7	46.5	13.0	60	200	2.0	
EGNB045MK	2.2	47.5	13.0	60	250	1.4	
EGNB070MK	0.9	49.5	18.0	70	400	1.5	
EGNB090MK	0.9	51.0	18.0	70	500	1.2	
EGNB060M1A	2.7	49.0	12.0	55	400	1.1	M1A
EGNB090M1A	2.2	50.5	12.0	55	500	0.75	
EGNB180M1A	0.9	53.5	17.5	65	1000	0.65	

Note: Tc (op)=+25°C

For General Purpose (E series)

Features

- Higher Gain: GL=16dB @f=2.7GHz, 30W Device
- High Operating Voltage: 50V
- Low Thermal Resistance (Rth)

Specifications

Part Number	Frequency (GHz)	Psat Typ. (dBm)	GL Typ. (dB)	η@Psat Typ. (%)	IDS (DC) (mA)	Rth Typ. (°C/W)	Outline/Package Code
SGNE010MK*	3.5	40.5	16.0	55	100	4.5	MK
SGNE030MK*	2.7	46.5	16.0	55	200	2.0	
SGNE045MK*	2.2	47.5	15.0	55	250	1.4	
SGNE070MK*	0.9	49.5	20.0	65	400	1.5	
SGNE090MK*	0.9	51.0	20.0	65	500	1.2	

* Under development, Sample Available
Note: Tc=+25°C

GaN HEMTs (High Electron Mobility Transistors)

For Radar

Features

- Designed for L-band / S-band Radar Applications
- Higher Impedance for Ease of Use
- Broadband Operation: 200MHz for L-band, 400MHz for S-band
- High Operating Voltage: 50V
- High Power: Up to 400W
- High Efficiency: 50%
- High Gain
- Low Thermal Resistance (Rth)

Specifications

Part Number	Frequency (GHz)	Pout min. (W)	Power Gain min. (dB)	Efficiency Typ. (%)	VDS (V)	IDS (DC) (mA)	Outline/Package Code
EGN13B200IV-R	1.2-1.4	170	16.3	55	50	1000	IV
EGN28B100IV-R	2.7-2.9	120	12.8	56	50	500	
EGN28B200IV-R	2.7-2.9	230	12.6	53	50	1000	
EGN28B400M1B-R	2.7-2.9	400	12	50	50	2000	M1B
EGN29B100IV-R	2.7-3.1	100	12	56	50	500	IV
EGN29B200IV-R	2.7-3.1	200	11	53	50	1000	
EGN31B100IV-R	2.9-3.3	120	11.8	55	50	500	
EGN31B200IV-R	2.9-3.3	200	11	50	50	1000	
EGN33B100IV-R	3.1-3.5	100	11	50	50	500	

Specifications (Driver Stage)

Part Number	Frequency (GHz)	P3dB min. (dBm)	GL min. (dB)	η@P3dB Typ. (%)	VDS (V)	IDS (DC) (mA)	Outline/Package Code
EGNB010MK	3.5	40	12	60	50	100	MK
EGN31B030MK	3.1	45.5	12	45	50	200	

GaN HEMT Pallet Amplifiers for Radar

Features

- Designed for S-band Radar Applications
- 50 ohm matched
- Broadband Operation: 400MHz
- High Operating Voltage: 50V
- High Power: Up to 200W
- High Efficiency: 50%
- High Gain
- RC Bias Circuits included
- Copper Base

Specifications

Part Number	Frequency (GHz)	Pout min. (W)	Power Gain min. (dB)	Efficiency Typ. (%)	VDS (V)	IDS (DC) (mA)	Outline/Package Code
EMC2933L1011R	2.9-3.3	120	11.8	55	50	500	Pallet-S
EMC2933L2011R	2.9-3.3	200	11	50	50	1000	
EMC3135L1011R	3.1-3.5	100	11	50	50	500	

Package Photo

