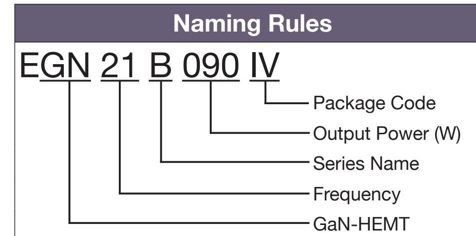
GaN HEMTs (High Electron Mobility Transistors)

For General Purpose

Features

- High Channel Temperature (Tch): Up to 250°C
- Higher Load Impedance: 5Ω~20Ω (Easy Match, Wide Band)
- High Operating Voltage: 50V
- High Breakdown Voltage: 350V
- High Power: Up to 180W P1dB
- High Efficiency: 60% @Psat
- Low Thermal Resistance (Rth)



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 Base Station (B Series)

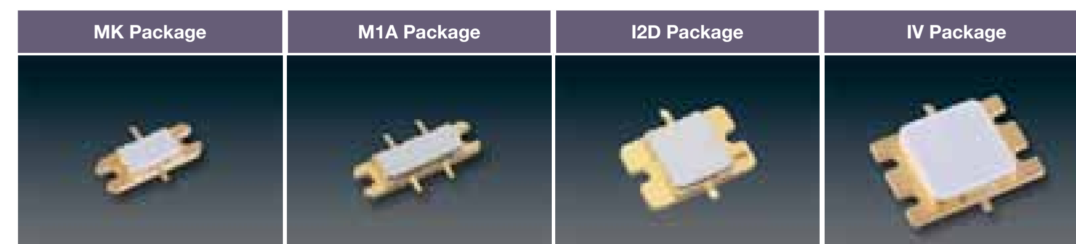
Features

- High Channel Temperature (Tch): Up to 250°C
- Higher Load Impedance: 5Ω~20Ω (Easy Match, Wide Band)
- High Operating Voltage: 50V
- High Breakdown Voltage: 350V
- High Power: Up to 180W P1dB
- High Efficiency: 60% @Psat
- Low Thermal Resistance (Rth)
- Designed for 3G/LTE Base Station and Optimised for Straight Amplifier Architecture

Internally Matched @2.14GHz

Part Number	Application	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	2.1G LTE	2.14	50.0	42.0[*1]	16.0[*1]	33[*1]	500	1.2	IV
EGN21B180IV	2.1G LTE	2.14	53.0	45.0[*1]	16.0[*1]	32[*1]	1000	0.6	

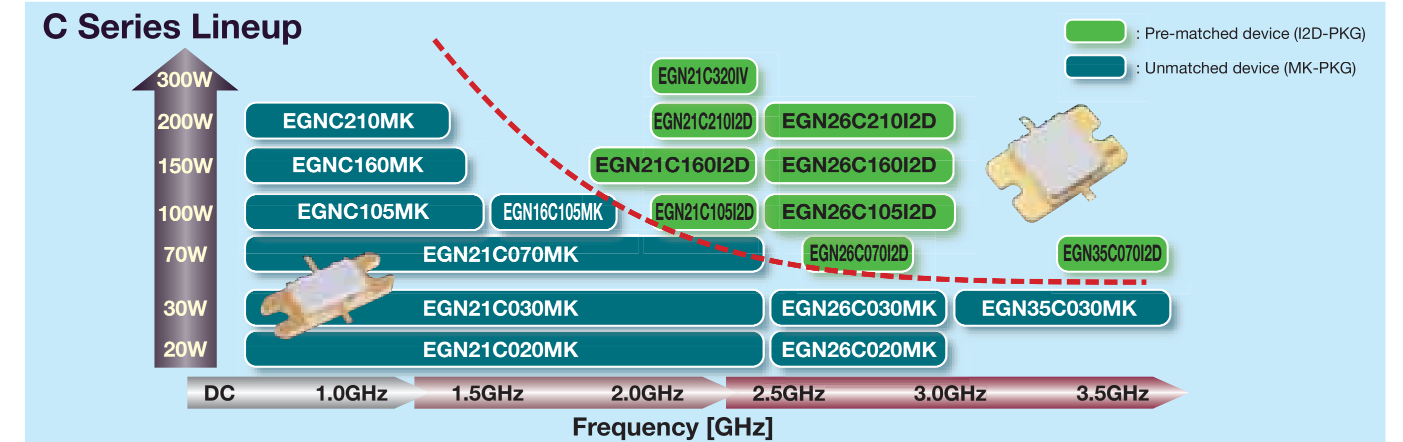
*1: Pout=(Ave.), f0=2.135GHz, f1=2.145GHz, W-CDMA (3GPP3.4 12-00) BS-1 64ch 47.5% clipping modulation (PAR=8.5dB@0.01%)
Note: Tc (op)=+25°C



For Base Station (C Series)

Features

- Designed for 3G/LTE/WiMAX Base Station
- Optimized for Doherty Architecture
- Higher Load Impedance: 15~20Ω @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



Specifications (Final Stage)

Part Number	Application	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	0.9G LTE	0.9	51.0	43.0[*3]	20.0[*3]	35[*3]	400	2.0	MK
EGNC160MK	0.9G LTE	0.9	52.5	44.5[*3]	18.0[*3]	35[*3]	600	1.4	
EGNC210MK	0.9G LTE	0.9	53.5	45.5[*3]	17.5[*3]	35[*3]	750	1.1	
EGN16C105MK	1.6G LTE	1.6	50.5	42.5[*3]	19.0[*3]	33[*3]	400	2.0	
EGN21C070MK	2.1G LTE	2.14	49.5	41.5[*3]	17.0[*3]	33[*3]	300	2.5	
EGN21C105I2D	2.1G LTE	2.14	50.3	42.0[*2]	18.0[*2]	32[*2]	400	2.0	I2D
EGN21C160I2D	2.1G LTE	2.14	52.5	44.5[*2]	18.0[*2]	32[*2]	600	1.4	
EGN21C210I2D	2.1G LTE	2.14	53.0	45.0[*2]	18.0[*2]	32[*2]	750	1.1	
EGN21C320IV	2.1G LTE	2.14	55.0	47.0[*2]	18.0[*2]	31[*2]	1100	0.8	IV
EGN26C070I2D	2.6G WiMAX	2.6	48.8	40.8[*3]	18.0[*3]	35[*3]	300	2.5	I2D
EGN26C105I2D	2.6G LTE	2.6	50.3	42.0[*3]	17.0[*3]	32[*3]	400	2.0	
EGN26C160I2D	2.6G LTE	2.6	52.5	44.5[*3]	16.0[*3]	30[*3]	600	1.4	
EGN26C210I2D	2.6G LTE	2.6	53.0	45.0[*3]	16.0[*3]	30[*3]	750	1.1	
EGN35C070I2D	3.5G WiMAX	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

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