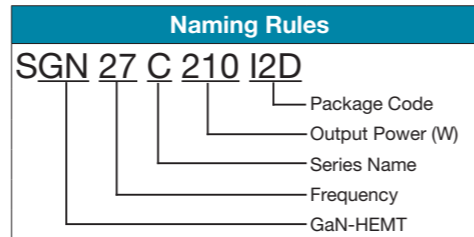


# GaN HEMTs (High Electron Mobility Transistors)

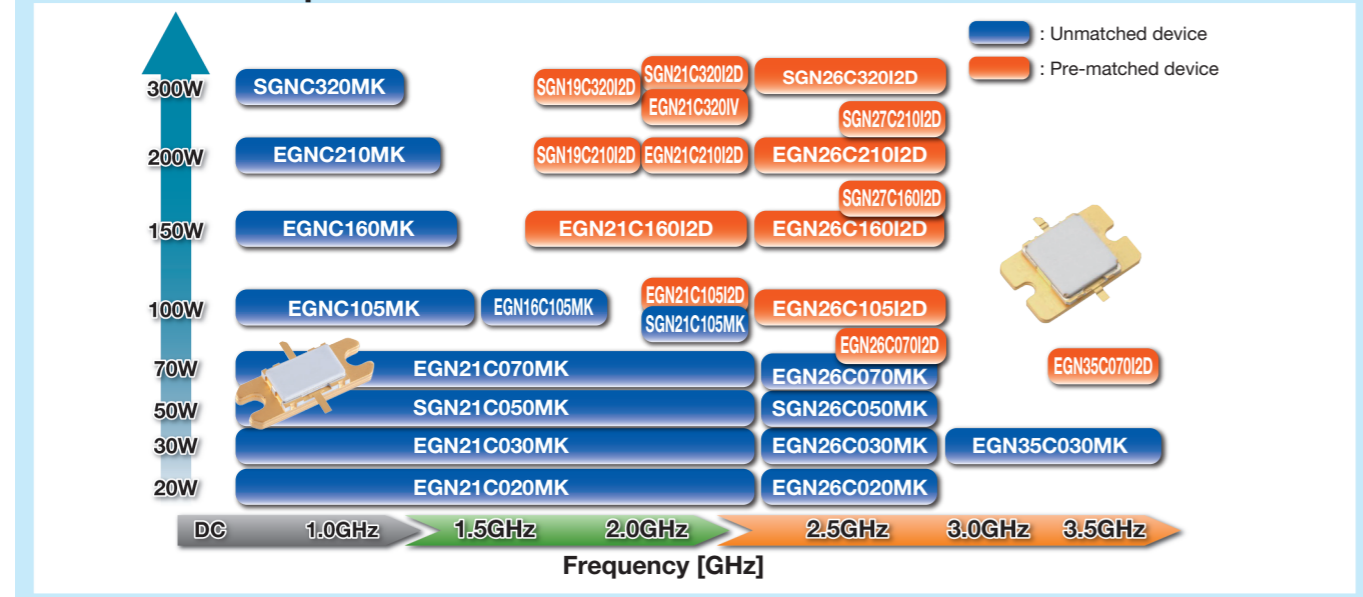
## For Base Station (C Series)

### 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 (Driver Stage)

Part Number	Frequency (GHz)	Psat <sup>1</sup> Typ. (dBm)	Pout <sup>2</sup> (Ave.) Typ. (dBm)	GP <sup>2</sup> Typ. (dB)	η <sup>2</sup> @Pout (Ave.) Typ. (%)	VDS (V)	IDS (DC) (mA)	Rth Typ. (°C/W)	Outline/Package Code
EGN21C020MK	2.14	43.5	30.0	19.0	12.5	50	100	6.0	MK
EGN21C030MK	2.14	45.0	31.5	19.0	12.5	50	150	5.0	
EGN26C020MK	2.6	43.5	30.0	18.0	12.5	50	100	6.0	
EGN26C030MK	2.6	45.0	31.5	18.0	12.5	50	150	5.0	
EGN35C030MK	3.5	45.0	31.5	16.5	11.0	50	150	5.0	

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

# GaN HEMTs (High Electron Mobility Transistors)

## Specifications (Final Stage)

Part Number	Frequency (GHz)	Psat <sup>1</sup> Typ. (dBm)	Pout (Ave.) Typ. (dBm)	GP Typ. (dB)	η@Pout (Ave.) Typ. (%)	VDS (V)	IDS (DC) (mA)	Rth Typ. (°C/W)	Outline/Package Code
EGNC105MK	0.9	51.0	43.0 <sup>3</sup>	20.0 <sup>3</sup>	35 <sup>3</sup>	50	400	2.0	MK
EGNC160MK	0.9	52.5	44.5 <sup>3</sup>	18.0 <sup>3</sup>	35 <sup>3</sup>	50	600	1.4	
EGNC210MK	0.9	53.5	45.5 <sup>3</sup>	17.5 <sup>3</sup>	35 <sup>3</sup>	50	750	1.1	
EGN16C105MK	1.6	50.5	42.5 <sup>3</sup>	19.0 <sup>3</sup>	33 <sup>3</sup>	50	400	2.0	I2D
SGN19C210I2D	1.9	53.0	45.0 <sup>3</sup>	18.5 <sup>3</sup>	32 <sup>3</sup>	50	750	1.1	
SGN21C105MK	2.1	50.3	42.5 <sup>3</sup>	17.0 <sup>3</sup>	32 <sup>3</sup>	50	400	2.0	MK
SGN21C050MK	2.14	47.0	39.0 <sup>3</sup>	18.5 <sup>3</sup>	33 <sup>3</sup>	50	200	3.0	
EGN21C070MK	2.14	49.5	41.5 <sup>3</sup>	17.0 <sup>3</sup>	33 <sup>3</sup>	50	300	2.5	
EGN21C105I2D	2.14	50.3	42.0 <sup>2</sup>	18.0 <sup>2</sup>	32 <sup>2</sup>	50	400	2.0	I2D
EGN21C160I2D	2.14	52.5	44.5 <sup>2</sup>	18.0 <sup>2</sup>	32 <sup>2</sup>	50	600	1.4	
EGN21C210I2D	2.14	53.0	45.0 <sup>2</sup>	18.0 <sup>2</sup>	32 <sup>2</sup>	50	750	1.1	IV
EGN21C320IV	2.14	55.0	47.0 <sup>2</sup>	18.0 <sup>2</sup>	31 <sup>2</sup>	50	1100	0.8	
SGN26C050MK	2.6	47.0	39.0 <sup>3</sup>	17.5 <sup>3</sup>	33 <sup>3</sup>	50	200	3.0	MK
EGN26C070MK	2.6	48.8	40.8 <sup>3</sup>	16.5 <sup>3</sup>	30 <sup>3</sup>	50	300	2.5	
EGN26C070I2D	2.6	48.8	40.8 <sup>3</sup>	18.0 <sup>3</sup>	35 <sup>3</sup>	50	300	2.5	I2D
EGN26C105I2D	2.6	50.3	42.0 <sup>3</sup>	17.0 <sup>3</sup>	32 <sup>3</sup>	50	400	2.0	
EGN26C160I2D	2.6	52.5	44.5 <sup>3</sup>	16.0 <sup>3</sup>	30 <sup>3</sup>	50	600	1.4	
EGN26C210I2D	2.6	53.0	45.0 <sup>3</sup>	16.0 <sup>3</sup>	30 <sup>3</sup>	50	750	1.1	
SGN27C160I2D	2.65	52.5	44.5 <sup>3</sup>	16.3 <sup>3</sup>	30 <sup>3</sup>	50	600	1.4	
SGN27C210I2D	2.65	53.0	45.0 <sup>3</sup>	16.3 <sup>3</sup>	30 <sup>3</sup>	50	750	1.1	
EGN35C070I2D	3.5	48.8	40.8 <sup>3</sup>	15.5 <sup>3</sup>	28 <sup>3</sup>	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	Frequency (GHz)	Psat <sup>1</sup> Typ. (dBm)	GP <sup>2</sup> Typ. (dB)	VDS (V)	Rth Typ. (°C/W)	Outline/Package Code
SGNC320MK	0.9	55.0	16.5	50	1.2	MK
SGN19C320I2D	1.9	55.0	18.0	50	1.2	I2D
SGN21C320I2D	2.14	55.0	17.5	50	1.2	
SGN26C320I2D	2.6	55.0	16.0	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

## Product Photo

