



# BCP060Z

## HIGH EFFICIENCY HETEROJUNCTION POWER FET

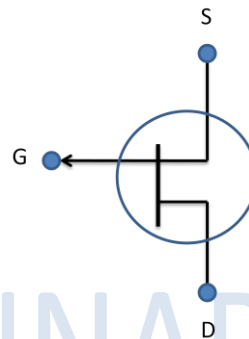
Description – The BeRex BCP060Z is a GaAs Power p-HEMT whose nominal 0.35 micron gate length and 600 micron gate width make the product ideally suited to applications requiring high-gain and medium power in the 1000 MHz to 26.5 GHz frequency range. The product is suited for either wideband (6-18 GHz) or narrow-band applications. The chip is produced using state of the art metallization and devices from each wafer are screened to insure reliability. All chips utilize Si<sub>3</sub>N<sub>4</sub> passivation for increased reliability.

### Product Features

- +28.0 dBm Typical Output Power
- 10 dB Typical Gain
- 1.0 dB Noise Figure at 2 GHz
- 0.35 X 600 Micron Recessed Gate

### Applications

- Commercial
- Military / Hi-Rel
- Test & Measurement



Chip Thickness: 100±20 um

### ELECTRICAL CHARACTERISTIC (T<sub>a</sub> = 25° C)

SYMBOLS	PARAMETER/TEST CONDITIONS	TEST FREQUENCY	MINIMUM	TYPICAL	MAXIMUM	UNIT
P <sub>1dB</sub>	Output Power @ P <sub>1dB</sub> (V <sub>ds</sub> = 10V, I <sub>ds</sub> = 50% I <sub>dss</sub> )	12 GHZ	26.5	28.0		dBm
G <sub>1dB</sub>	Gain @ P <sub>1dB</sub> (V <sub>ds</sub> = 10V, I <sub>ds</sub> = 50% I <sub>dss</sub> )	12 GHZ	8.5	10.0		dB
PAE	PAE @ P <sub>1dB</sub> (V <sub>ds</sub> = 10V, I <sub>ds</sub> = 50% I <sub>dss</sub> )	12 GHZ		43		%
NF	Noise Figure (V <sub>ds</sub> = 10V, I <sub>ds</sub> = 50% I <sub>dss</sub> )	12 GHZ		1.0		dB
G <sub>a</sub>	Associated Gain (V <sub>ds</sub> = 10V, I <sub>ds</sub> = 50% I <sub>dss</sub> )	12 GHZ		11		dB
I <sub>dss</sub>	Saturated Drain Current			180		mA
G <sub>m</sub>	Transconductance			225		mS
V <sub>p</sub>	Pinch-off Voltage			-1.0		V
BV <sub>gd</sub>	Drain Breakdown Voltage			22		V
BV <sub>gs</sub>	Source Breakdown Voltage			20		V
R <sub>th</sub>	Thermal Resistance (Au-Sn Eutectic Attach)			75		° C/W

SYMBOLS	PARAMETERS	ABSOLUTE	CONTINUOUS
V <sub>ds</sub>	Drain-Source Voltage	14V	12V
V <sub>gs</sub>	Gate-Source Voltage	-6V	-3V
I <sub>ds</sub>	Drain Current	I <sub>dss</sub>	160 mA
I <sub>gsf</sub>	Forward Gate Current	30mA	10mW
P <sub>in</sub>	Input Power	25dBm	3dB Compression
T <sub>ch</sub>	Channel Temperature	175° C	150° C
T <sub>stg</sub>	Storage Temperature	-60° C / 150° C	-60° C / 150° C
P <sub>t</sub>	Total Power Dissipation	1.8W	2.5W