



BCP480Z

HIGH EFFICIENCY HETEROJUNCTION POWER FET

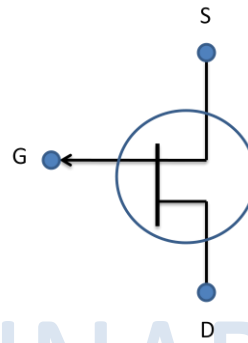
Description – The BeRex BCP480Z is a GaAs Power p-HEMT whose nominal 0.35 micron gate length and 4800 micron gate width make the product ideally suited to applications requiring high-gain and medium power in the 1000 MHz to 18.0 GHz frequency range. The product is suited for power applications thru 18 GHz. The chip is produced using state of the art metallization and devices from each wafer are screened to insure reliability. All chips utilize Si_3N_4 passivation for increased reliability.

Product Features

- +35.0 dBm Typical Output Power
- 7.0 dB Typical Gain
- 0.35 X 4800 Micron Recessed Gate

Applications

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



Chip Thickness: 100um ±20 micron

PRELIMINARY

ELECTRICAL CHARACTERISTIC (T_a = 25° C)

SYMBOLS	PARAMETER/TEST CONDITIONS	TEST FREQUENCY	MINIMUM	TYPICAL	MAXIMUM	UNIT
P _{1dB}	Output Power @ P _{1dB} (V _{ds} = 12V, I _{ds} = 50% I _{dss})	12 GHZ	34.0	35.0		dBm
G _{1dB}	Gain @ P _{1dB} (V _{ds} = 12V, I _{ds} = 50% I _{dss})	12 GHZ	6.0	7.0		dB
PAE	PAE @ P _{1dB} (V _{ds} = 12V, I _{ds} = 50% I _{dss})	12 GHZ		40		%
NF	Noise Figure (V _{ds} = 12V, I _{ds} = 50% I _{dss})	12 GHZ		NA		dB
G _a	Associated Gain (V _{ds} = 12V, I _{ds} = 50% I _{dss})	12 GHZ		8.0		dB
I _{dss}	Saturated Drain Current		900	1400		mA
G _m	Transconductance		950	1500		mS
V _p	Pinch-off Voltage		-0.1	-0.5	-1.5	V
BV _{gd}	Drain Breakdown Voltage		22	24		V
BV _{gs}	Source Breakdown Voltage		15	22.5		V
R _{th}	Thermal Resistance (Au-Sn Eutectic Attach)			10		° C/W

SYMBOLS	PARAMETERS	ABSOLUTE	CONTINUOUS
V _{ds}	Drain-Source Voltage	15V	12V
V _{gs}	Gate-Source Voltage	11.5	3.0
I _{ds}	Drain Current	I _{dss}	1200 mA
I _{gsf}	Forward Gate Current	240 mA	40mA
P _{in}	Input Power	33 dbm	30 dbm
T _{ch}	Channel Temperature	175° C	150° C
T _{stg}	Storage Temperature	-60° C / 150° C	-60° C / 150° C
P _t	Total Power Dissipation	14 watt	11 watt