polyfet rf devices

MCCR21

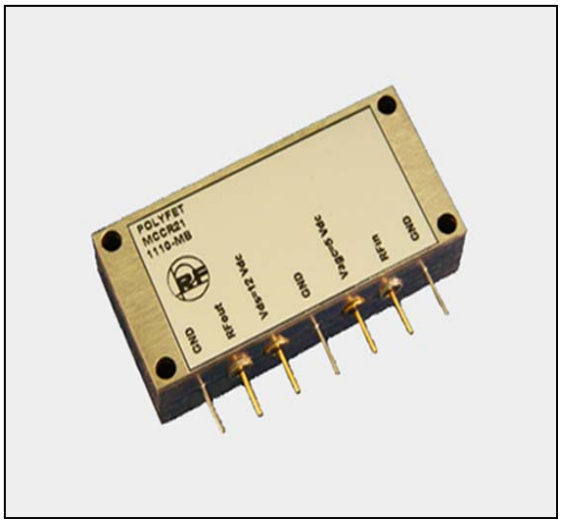
RF Power Module

Power = 10.0 Watts

Bandwidth = 20.0 to 600 Mhz

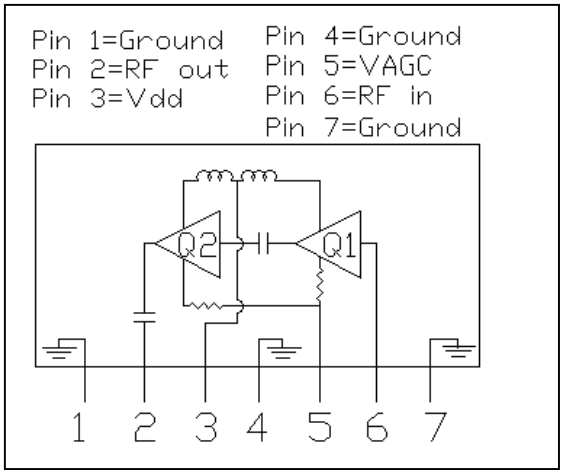
Gain = 25.0 dB Vdd = 12.0 Volts

50 ohms Input/Output Impedance



Description

The MCCR21 is a 10 Watt, 12.0V Vdd, 2 stage high gain amplifier module covering a bandwidth of 20-6000 Mhz. This compact module design is suitable for military applications in a rugged environment. An ALC pin out is provided to control the output power, gain and blanking of the module.



Absolute Maximum Ratings (T=25 ^{o}C)

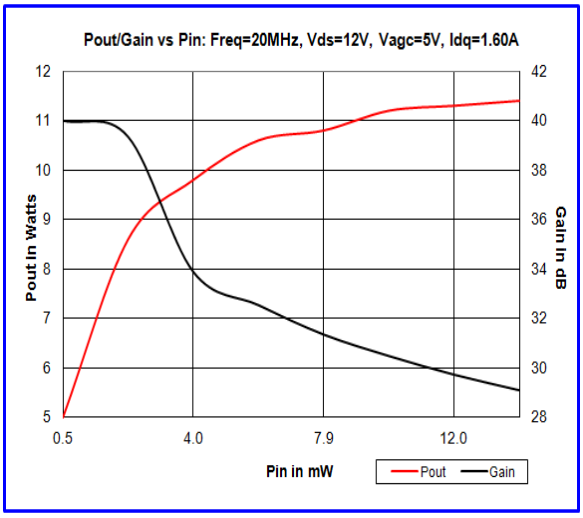
Parameter	*Symbol*	*Value*	*Unit*
DC supply Voltage 1	*VDD1*	32.0	*V*
DC supply Voltage 2	*VDD2*		*V*
AGC Voltage	*VAGC*	5.5	*V*
AGC Current	*VAGCI*	5.00	*mA*
Input Power	*Pin*	0.080	*W*
Output Power	*Pout*	15.0	*W*
Operating Case Temp.	*Tc*	-40 to +85	^{o}C
Storage Temperature	*Tstg*	-55 to +100	^{o}C

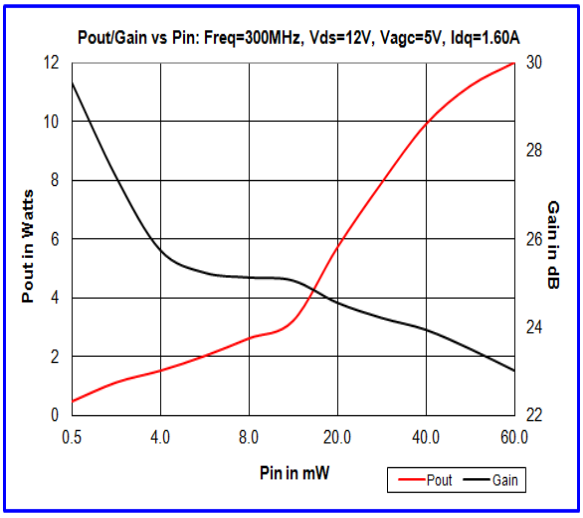
Electrical Characteristics: (T=25 ^{o}C Zs=Zl=50 ohms, Vdd = 12.0 Volts, Idq = 1.6 Amps)

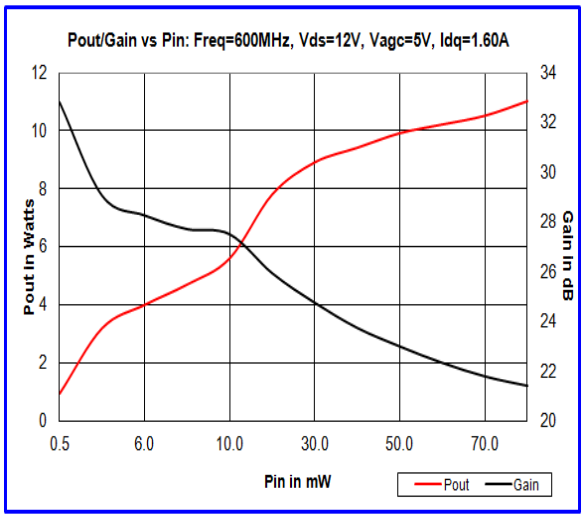
Parameter	*Symbol*	*Min*	*Typical*	*Max*	*Unit*	*Test Conditions*
Frequency Range	*BW*	20.0		600	*Mhz*	*50 ohm load*
Outut Power	*Po*		10.0		*Watts*	*Pin* = 15.0 *dbm* *Vagc* = 5.00 *V*
Power Gain	*PG*		25.0		*dB*	*Pout* = 10.0 *Watts* *Vagc* = 5.00 *V*
Total Efficiency	η		25		*%*	*Pout* = 10.0 *Watts*
2nd Harmonics	*dso*	-25.00	-35.00		*dBc*	*Pout* = 10.0 *Watts* *@* *Mhz*
Intermod - 2 tone	*Im3*		-15.00		*dBc*	*AvePwr*= 5.0 *Watts*
Load Mismatch Tolerance	*VSWR*	10:1			*Relative*	*All Phase Angles* *Pout* = 10.0 *W*
Vagc Voltage	*VAGC*			5.00	*V*	*Pin* = 15.0 *dBm, Pout* = 10.0 *W*
Pulse Responese Time	*Pr*			10.0	*uS*	*Pulse source*: Pin

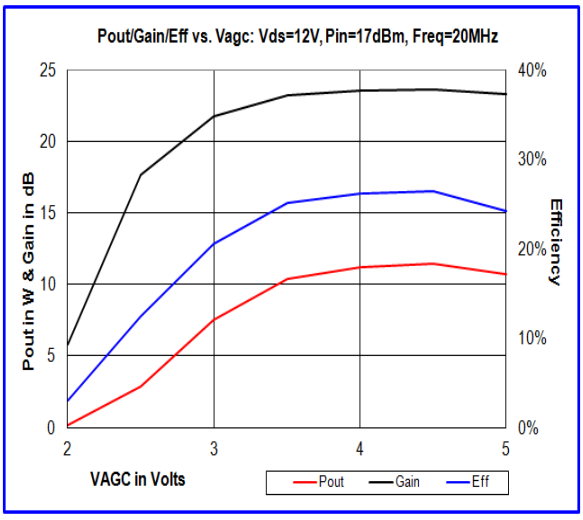
1110 Avenida Acaso, Camarillo, Ca 93012 Tel:(805) 484-4210 FAX: (805) 484-3393 URL:www.polyfet.com

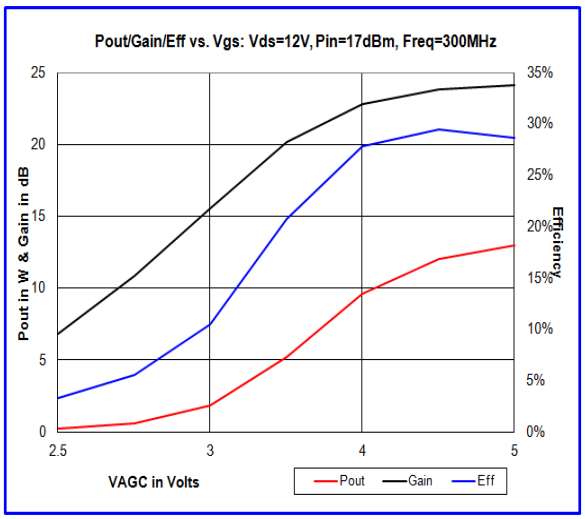
MCCR21

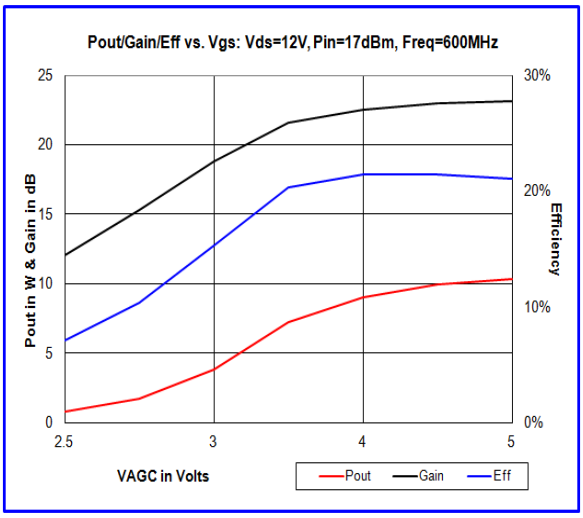

Pout/Gain vs Pin: Freq=20MHz, Vds=12V, Vagc=5V, Idq=1.60A
Pout in Watts
Gain in dB
Pin in mW
0.5
4.0
7.9
12.0
Pout
Gain


Pout/Gain vs Pin: Freq=300MHz, Vds=12V, Vagc=5V, Idq=1.60A
Pout in Watts
Gain in dB
Pin in mW
0.5
4.0
8.0
20.0
40.0
60.0
Pout
Gain

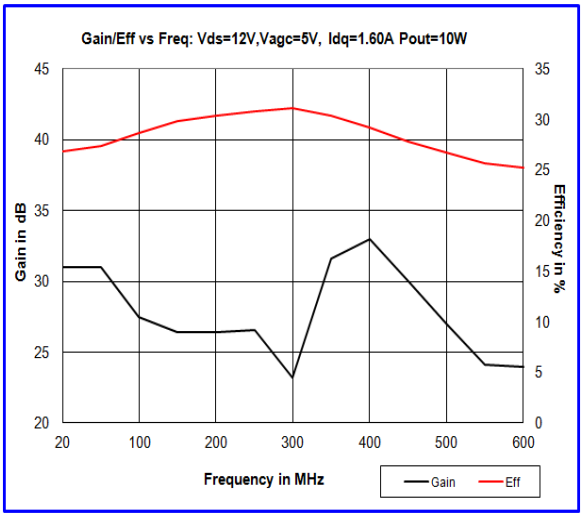

Pout/Gain vs Pin: Freq=600MHz, Vds=12V, Vagc=5V, Idq=1.60A
Pout in Watts
Gain in dB
Pin in mW
0.5
6.0
10.0
30.0
50.0
70.0
Pout
Gain

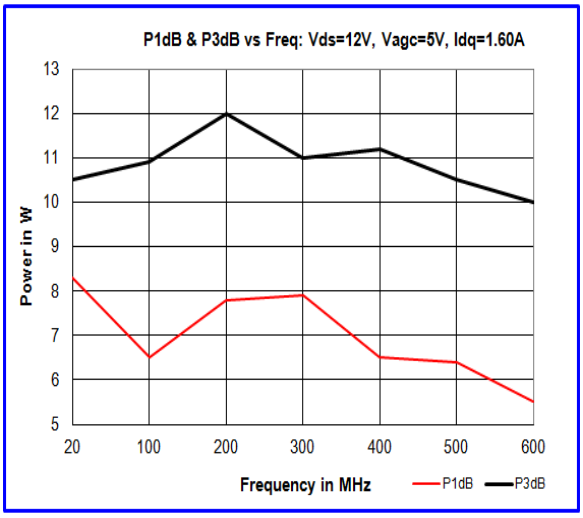

Pout/Gain/Eff vs. Vagc: Vds=12V, Pin=17dBm, Freq=20MHz
Pout in W & Gain in dB
Efficiency
VAGC in Volts
2
3
4
5
Pout
Gain
Eff

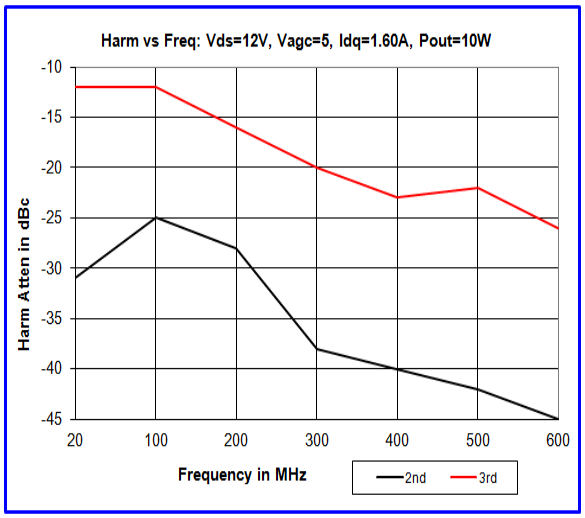

Pout/Gain/Eff vs. Vgs: Vds=12V, Pin=17dBm, Freq=300MHz
Pout in W & Gain in dB
Efficiency
VAGC in Volts
2.5
3
4
5
Pout
Gain
Eff

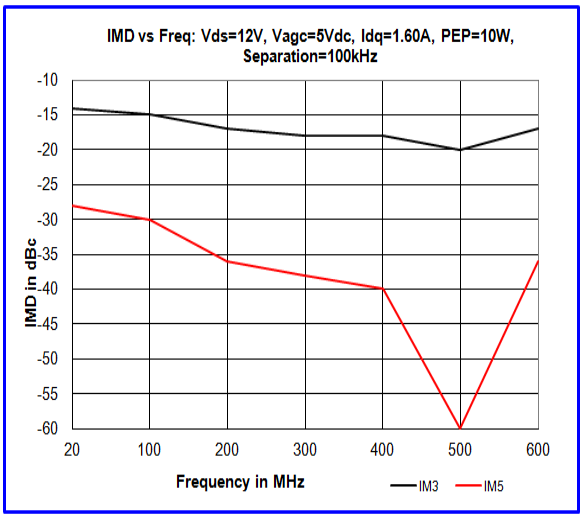

Pout/Gain/Eff vs. Vgs: Vds=12V, Pin=17dBm, Freq=600MHz
Pout in W & Gain in dB
Efficiency
VAGC in Volts
2.5
3
4
5
Pout
Gain
Eff

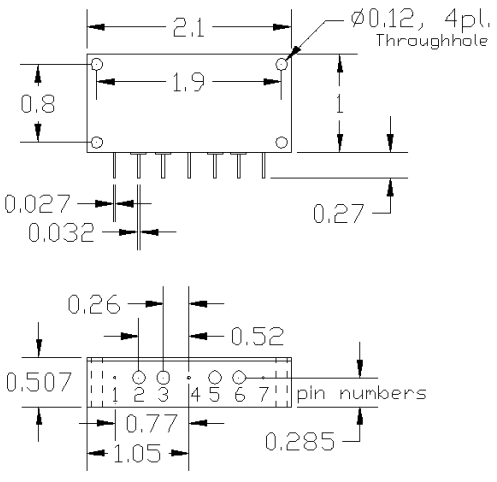
MCCR21











1110 Avenida Acaso, Camarillo, Ca 93012 Tel:(805) 484-4210 FAX: (805) 484-3393 URL:www.polyfet.com