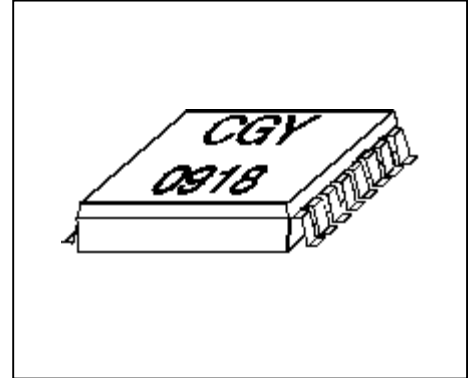


GaAs MMIC

- Dual band GSM/PCN power amplifier
- 35dBm / 34dBm output power at 3.5 V
- Two amplifiers in a single package
- Power ramp control



ESD: **E**lectrostatic **d**ischarge sensitive device, observe handling precautions!

Type	Marking	Ordering code (taped)	Package
CGY 0918	CGY 0918	Q62702G0077	MW 16

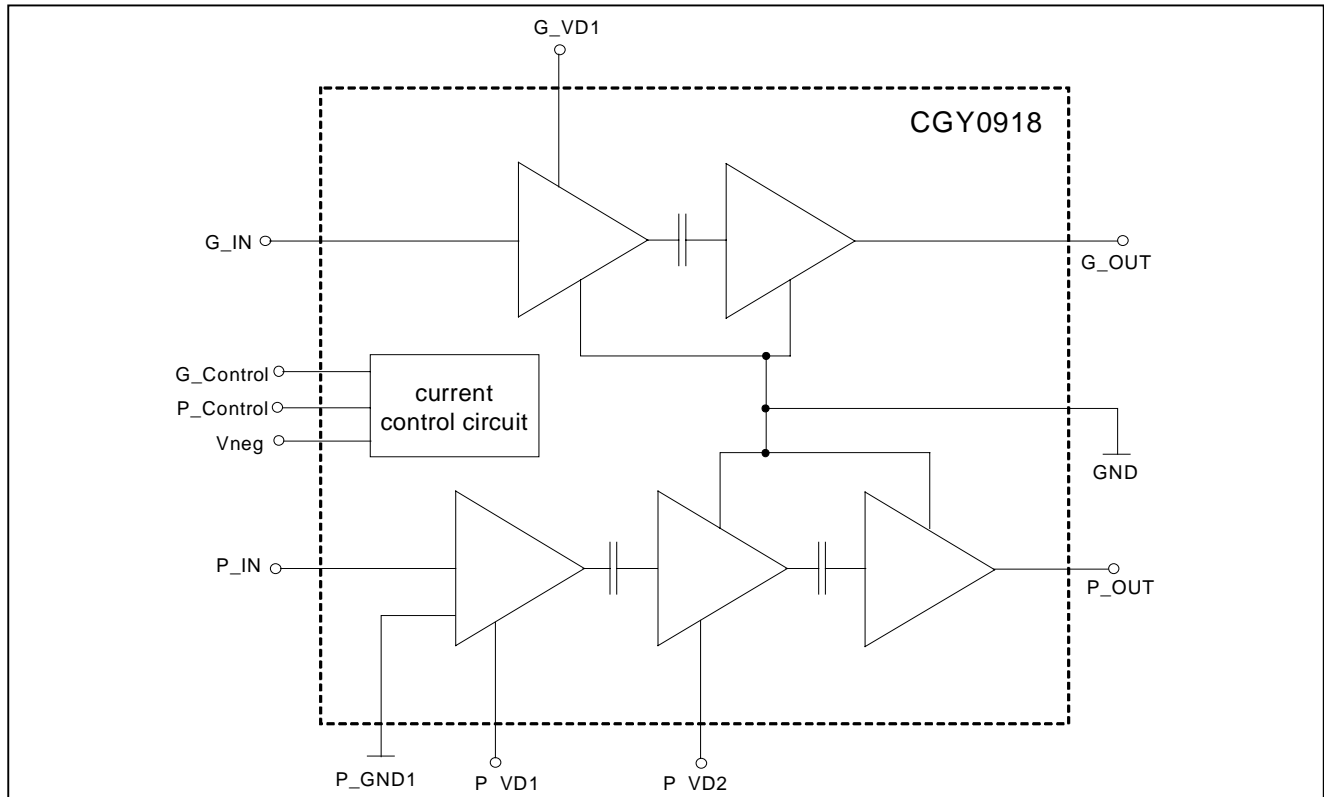
Maximum ratings

Characteristics	Symbol	max. Value	Unit
Positive supply voltage	V_D	9	V
Supply current	I_D	4	A
Channel temperature	T_{Ch}	150	°C
Storage temperature	T_{stg}	-55...+150	°C
Pulse peak power dissipation <i>duty cycle 12.5%, $t_{on}=0.577ms$</i>	P_{Pulse}	tbd	W
Total power dissipation ($T_s \leq 80\text{ °C}$) <i>T_s: Temperature at soldering point</i>	P_{tot}	tbd	W

Thermal Resistance

Characteristics	Symbol	max. Value	Unit
Channel-soldering point	R_{thChS}	tbd	K/W

Functional block diagramm:



Pin #	Name	Configuration
1	P_IN	RF input PCN
2	P_GND1	Ground 1 st stage PCN
3	P_VD1	Drain 1 st stage PCN
4	P_VD2	Drain 2 nd stage
5,6,7,8	P_OUT	RF output PCN and drain 3 rd stage
9	G_IN	RF input GSM
10	G_Control	Power control GSM
11	P_Control	Power control PCN
12	Vneg	Negative voltage for current control circuit
13	n.c.	-
14	G_VD1	Drain 1 st stage GSM
15,16	G_OUT	RF output GSM and drain 2 nd stage
(17)	GND2	Ground (backside of MW16 package)

Electrical characteristics

GSM900-Mode

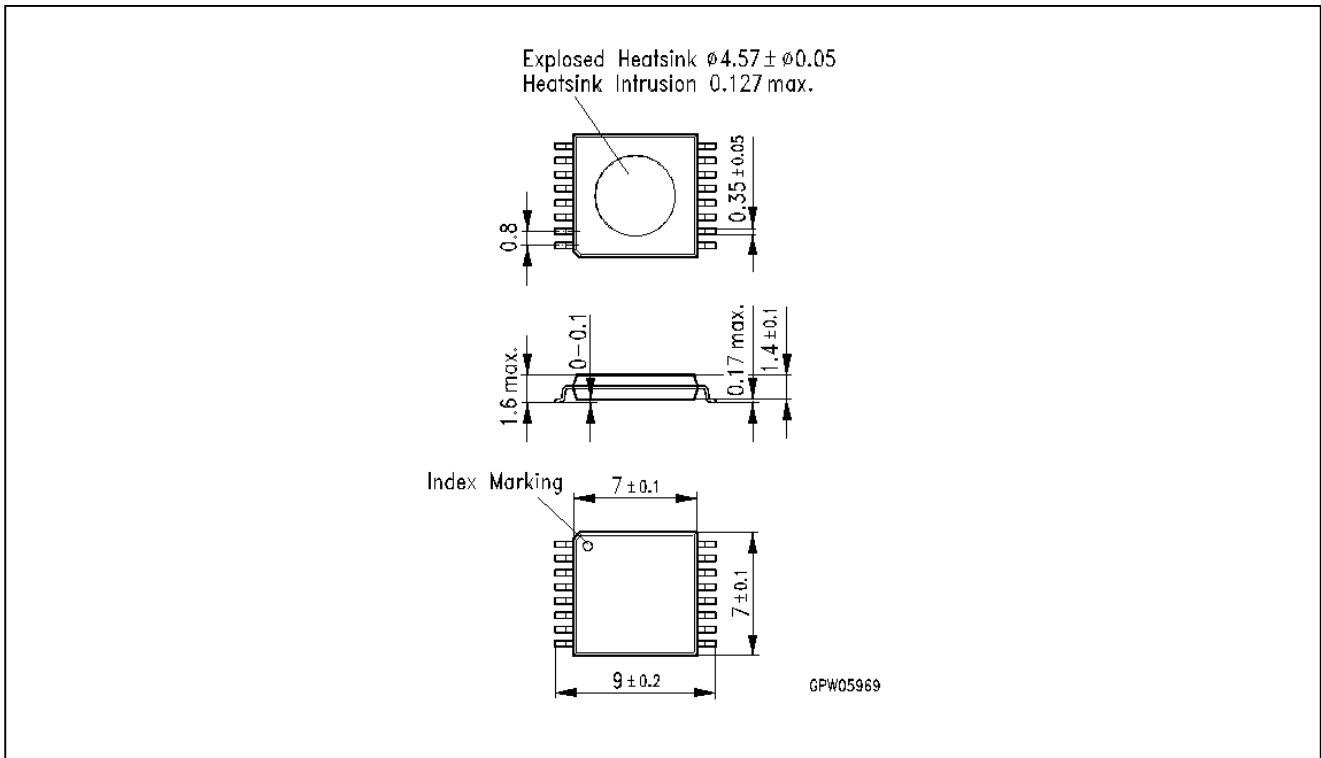
($T_A = 25^\circ\text{C}$, $V_D=3.5\text{V}$, $V_{\text{neg}}=-5\text{V}$, $V_{\text{control}}=2.5\text{V}$; duty cycle 12.5%, $t_{\text{on}}=577\mu\text{sec}$)

Characteristics	Symbol	min	typ	max	Unit
Frequency range	f	880	-	915	MHz
Supply current $P_{\text{in}}=10\text{dBm}$	I_D	-	1.6	-	A
Supply current neg. voltage gener $V_{\text{aux}}=3.5\text{V}$	I_{AUX}	-	10	-	mA
Gain (small signal)	G	-	30	-	dB
Power gain $P_{\text{in}}=10\text{dBm}$	G_P	-	25	-	dB
Output Power $P_{\text{in}}=10\text{dBm}$	P_{OUT}	-	35	-	dBm
Overall Power added Efficiency $P_{\text{in}}=10\text{dBm}$	η	-	55	-	%
Dynamic range output power $V_{\text{control}} = 0.2\dots 2.5\text{V}$		-	50	-	dB

PCN(DCS1800)-Mode

($T_A = 25^\circ\text{C}$, $V_D=3.5\text{V}$, $V_{\text{neg}}=-5\text{V}$, $V_{\text{control}}=2.5\text{V}$; duty cycle 12.5%, $t_{\text{on}}=577\mu\text{sec}$)

Characteristics	Symbol	min	typ	max	Unit
Frequency range	f	1710	-	1785	MHz
Supply current $P_{\text{in}}=10\text{dBm}$	I_D	-	1.4	-	A
Supply current neg. voltage gener. $V_{\text{aux}}=3.5\text{V}$	I_{AUX}	-	10	-	mA
Gain (small signal)	G	-	28	-	dB
Power gain $P_{\text{in}}=10\text{dBm}$	G_P	-	24	-	dB
Output Power $P_{\text{in}}=10\text{dBm}$	P_{OUT}	-	34	-	dBm
Overall Power added Efficiency $P_{\text{in}}=10\text{dBm}$	η	-	45	-	%
Dynamic range output power $V_{\text{control}} = 0.2\dots 2.5\text{V}$		-	55	-	dB



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