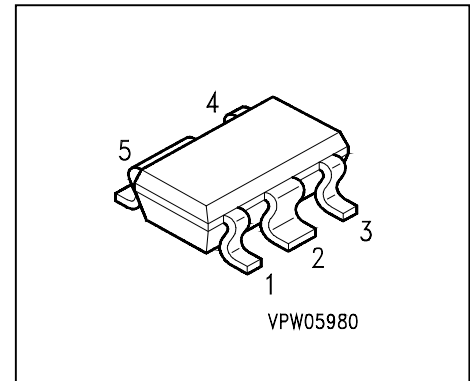


## GaAs MMIC

- Broadband Power Amplifier [ 800..2000 Mhz ]
- GSM,AMPS or PCN
- Operating voltage range: 2.7 to 5.0 V
- Pout = 35.0dBm at Vd=3.5V
- Overall power added efficiency 55 %
- Easy external matching



ESD: **E**lectro**s**tatic **d**ischarge sensitive device, observe handling precautions!

Type	Marking	Ordering code (taped)	Package
CGY98	t.b.d.	t.b.d.	SCT595

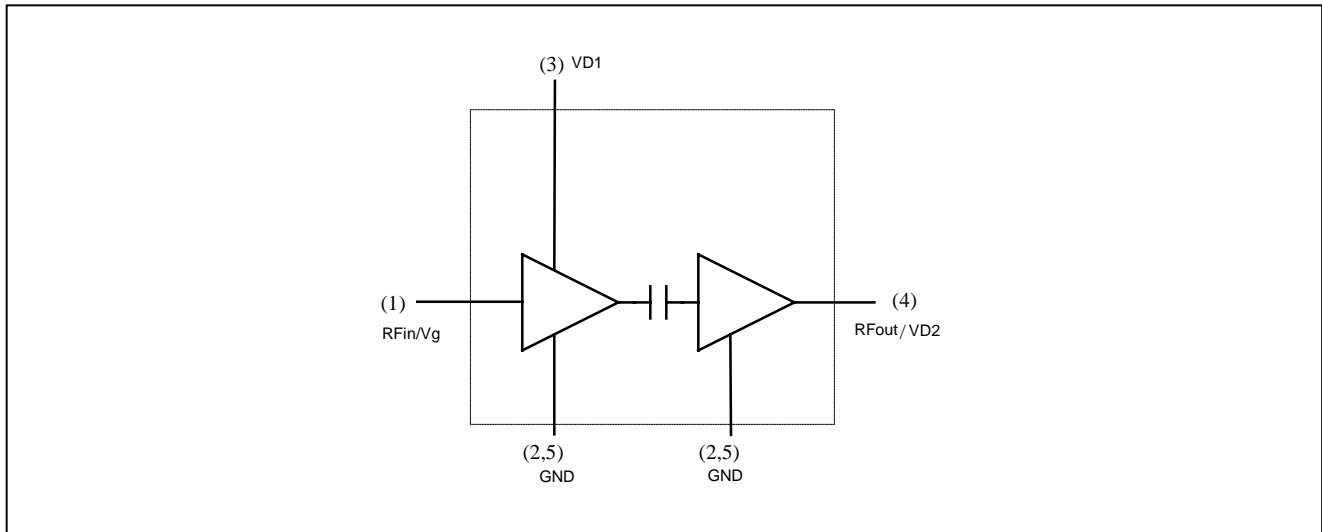
## Maximum ratings

Characteristics	Symbol	max. Value	Unit
Positive supply voltage	$V_D$	6	V
Supply current stage 1	$I_D$	0.6	A
Supply current stage 2	$I_D$	1.8	A
Channel temperature	$T_{Ch}$	150	°C
Storage temperature	$T_{stg}$	-55...+150	°C
Total power dissipation ( $T_s \leq 81 \text{ °C}$ )	$P_{tot}$	2.0	W
<i>T<sub>s</sub>: Temperature at soldering point</i>			
Pulse peak power	$P_{Pulse}$	4.0	W

## Thermal Resistance

Characteristics	Symbol	max. Value	Unit
Channel-soldering point	$R_{thChS}$	35	K/W

## Functional Block Diagram



Pin #		Configuration
1	<b>RFin/VG</b>	RF input power + Gate voltage
2	<b>GND</b>	RF and DC ground
3	<b>VD1</b>	Pos. drain voltage 1st stage
4	<b>RFout/VD2</b>	RF output power / Pos. drain voltage 2nd stage
5	<b>GND</b>	RF and DC ground

## GSM-Operation

### Electrical characteristics [Inside Application: PCB-Layout t.b.d.]

( $T_A = 25^\circ\text{C}$ ,  $Z_S = Z_L = 50 \text{ Ohm}$ , duty cycle 12.5%,  $t_{on} = 577 \mu\text{s}$  unless otherwise specified)

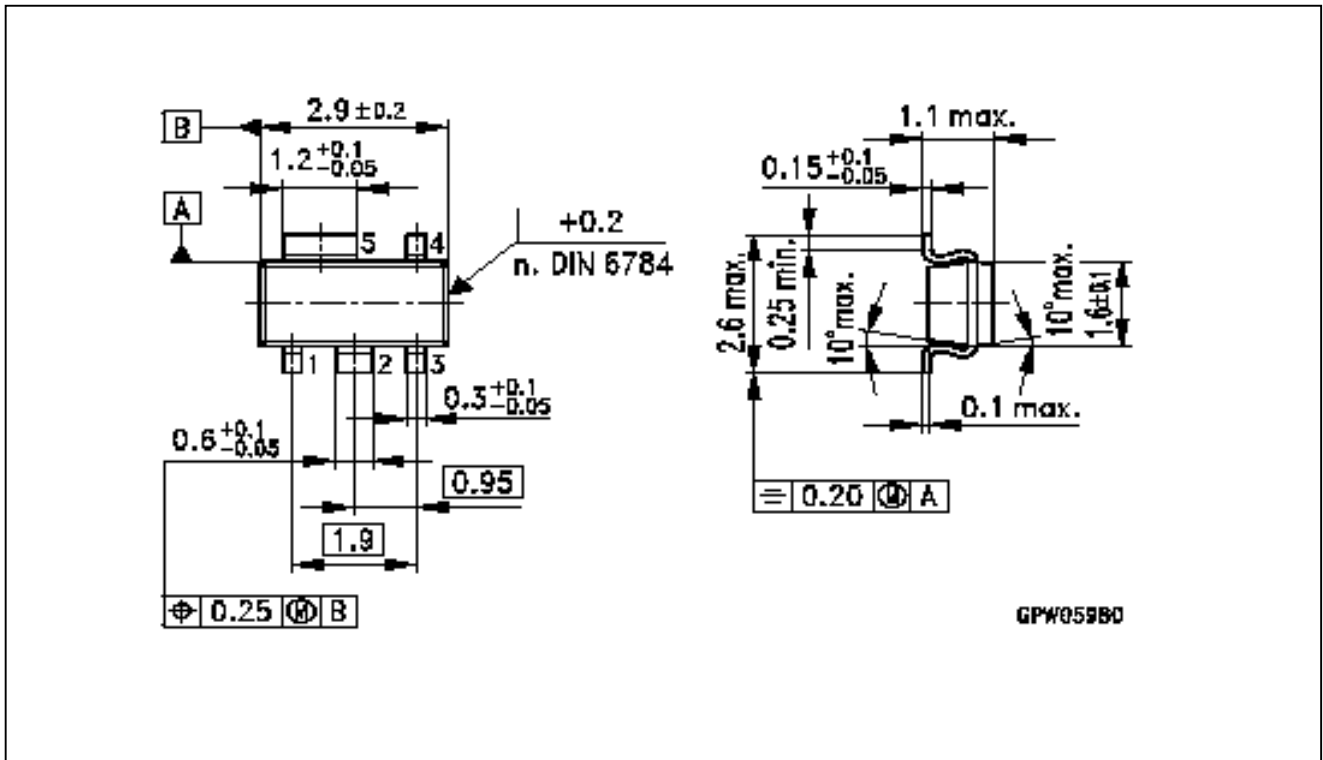
Characteristics	Symbol	min	typ	max	Unit	
Frequency range	$f$	880	-	915	MHz	
Supply current $VD = 3.5\text{V}$ ; $P_{in} = +12 \text{ dBm}$	$I_{DD}$	-	1.6	-	A	
Power Gain $VD = 3.5\text{V}$ ; $P_{in} = +12 \text{ dBm}$	$G$		23		dB	
Output Power $VD = 3.5\text{V}$ ; $P_{in} = +12 \text{ dBm}$	$P_O$		35.0		dBm	
Overall Power added Efficiency $VD = 3.5\text{V}$ ; $P_{in} = +12 \text{ dBm}$	$PAE$		55	-	%	
Harmonics	$2f_0$	-	-	-42	-	dBc
	$3f_0$	-	-	-42	-	
Input VSWR $VD = 3.5\text{V}$ or $Vd = 4.8\text{V}$	-	-	2 : 1	-	-	
Load mismatch $P_{in} = 10\text{dBm}$ , $VD \leq 4.6\text{V}$ , $Z_S = 50 \text{ Ohm}$ , $Load \text{ VSWR} = 20:1$ for all phase,		No module damage for 10 sec.				
Stability $P_{in} = 10\text{dBm}$ , $VD = 4.6\text{V}$ , $Z_S = 50 \text{ Ohm}$ , $Load \text{ VSWR} = 3:1$ for all phase		All spurious output more than 70 dB below desired signal level				

## PCN(DCS1800)-Operation

### Electrical characteristics [Inside Application: PCB-Layout t.b.d.]

( $T_A = 25^\circ\text{C}$ ,  $Z_S = Z_L = 50 \text{ Ohm}$ , duty cycle 12.5%,  $t_{on} = 577 \mu\text{s}$  unless otherwise specified)

Characteristics	Symbol	min	typ	max	Unit	
Frequency range	$f$	1710		1785	MHz	
Supply current $V_D = 3.5\text{V}$ ; $P_{in} = +15 \text{ dBm}$	$I_{DD}$	-	1.6	-	A	
Power Gain $V_D = 3.5\text{V}$ ; $P_{in} = +15 \text{ dBm}$	$G$		19		dB	
Output Power $V_D = 3.5\text{V}$ ; $P_{in} = +15 \text{ dBm}$	$P_O$		34.0		dBm	
Overall Power added Efficiency $V_D = 3.5\text{V}$ ; $P_{in} = +15 \text{ dBm}$	$PAE$		45	-	%	
Harmonics	$2f_0$	-	-	-42	-	dBc
	$3f_0$	-	-	-42	-	
Input VSWR $V_D = 3.5\text{V}$ or $V_D = 4.8\text{V}$	-	-	2 : 1	-	-	
Load mismatch $P_{in} = 10\text{dBm}$ , $V_D \leq 4.6\text{V}$ , $Z_S = 50 \text{ Ohm}$ , Load VSWR = 20:1 for all phase,		No module damage for 10 sec.				
Stability $P_{in} = 10\text{dBm}$ , $V_D = 4.6\text{V}$ , $Z_S = 50 \text{ Ohm}$ , Load VSWR = 3:1 for all phase		All spurious output more than 70 dB below desired signal level				



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