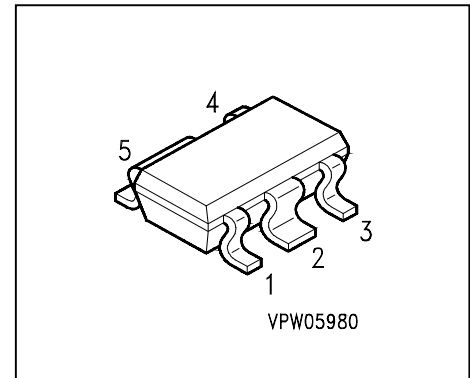


GaAs MMIC

- 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 |

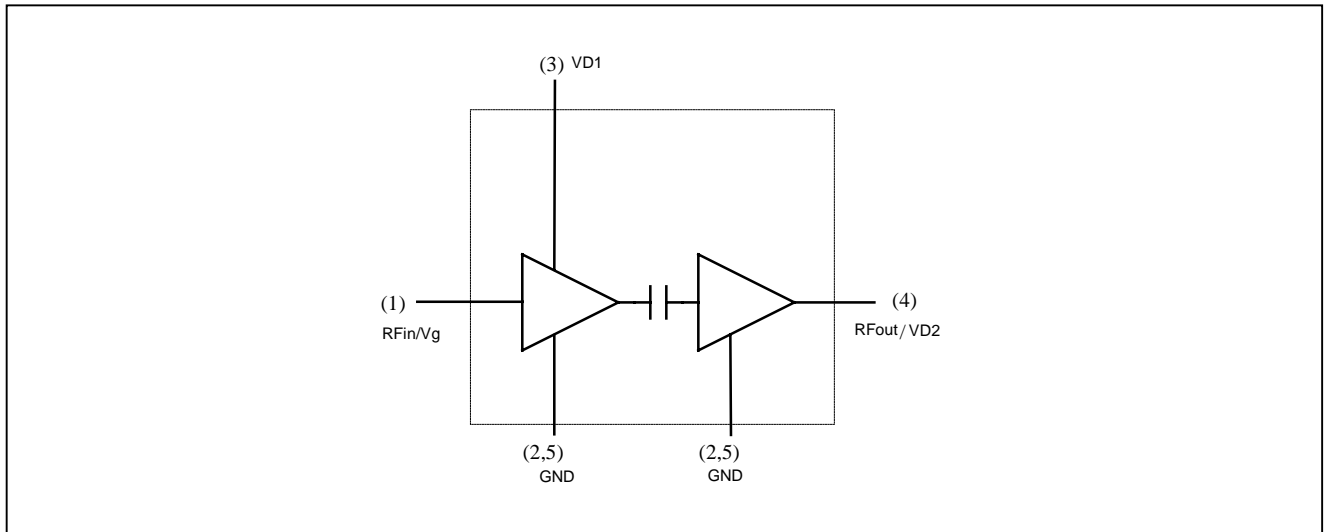
Maximum ratings

| 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_s: 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 | RFin/VG | RF input power + Gate voltage |
| 2 | GND | RF and DC ground |
| 3 | VD1 | Pos. drain voltage 1st stage |
| 4 | RFout/VD2 | RF output power / Pos. drain voltage 2nd stage |
| 5 | GND | 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)

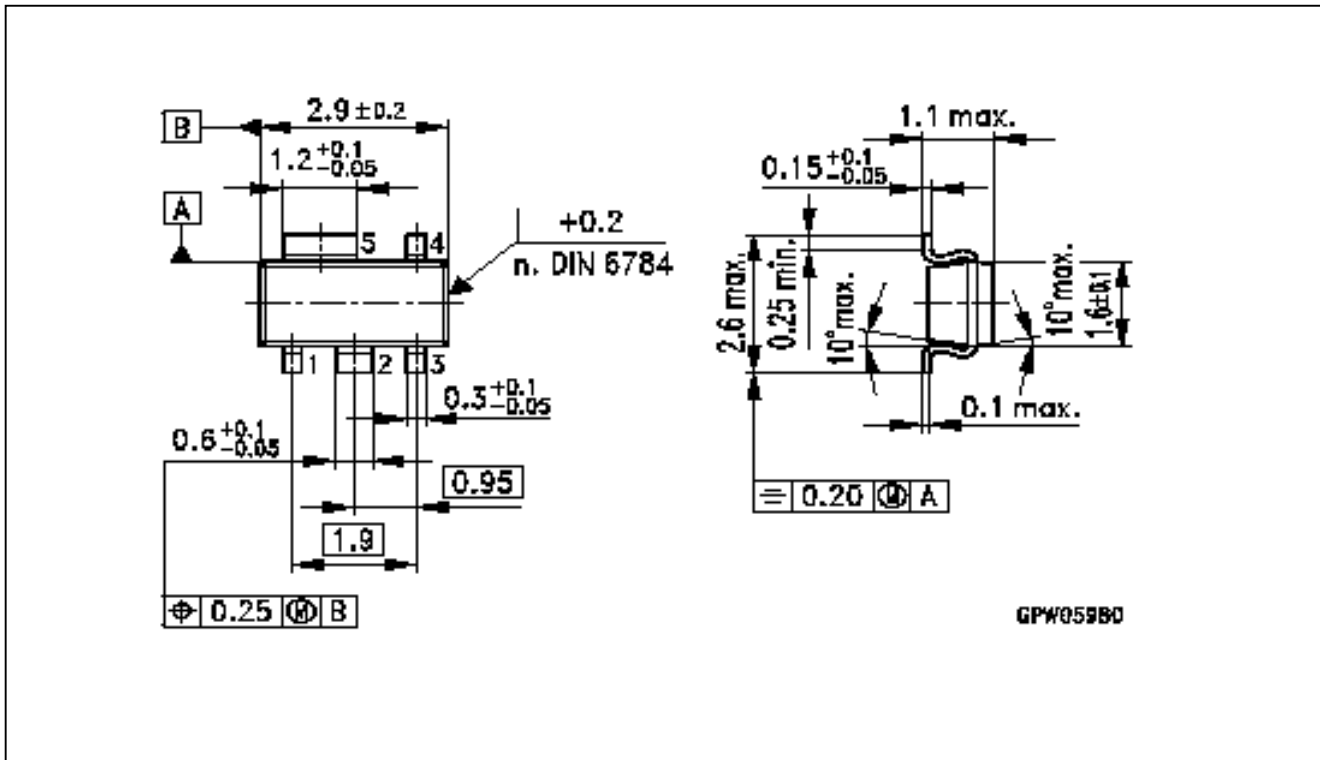
| Characteristics | Symbol | min | typ | max | Unit | |
|--|----------|--|-------|-----|------|-----|
| Frequency range | f | 880 | - | 915 | MHz | |
| Supply current $VD = 3.5\text{V}$; $P_{in} = +12 \text{ dBm}$ | I_{DD} | - | 1.6 | - | A | |
| Power Gain $VD = 3.5\text{V}$; $P_{in} = +12 \text{ dBm}$ | 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 | | | | |



Published by Siemens AG, Bereich Halbleiter, Marketing-Kommunikation, Balanstraße 73, D-81541 München.

copyright Siemens AG 1996. All Rights Reserved.

As far as patents or other rights of third parties are concerned, liability is only assumed for components per se, not for applications, processes and circuits implemented within components or assemblies.

The information describes the type of component and shall not be considered as assured characteristics.

Terms of delivery and rights to change design reserved.

For questions on technology, delivery, and prices please contact the Offices of Semiconductor Group in Germany or the Siemens Companies and Representatives worldwide (see address list).

Due to technical requirements components may contain dangerous substances. For information on the type in question please contact your nearest Siemens Office, Semiconductor Group.

Siemens AG is an approved CECC manufacturer.