TELEFUNKEN electronic
Creative Technologies

7-31-25

CF 300

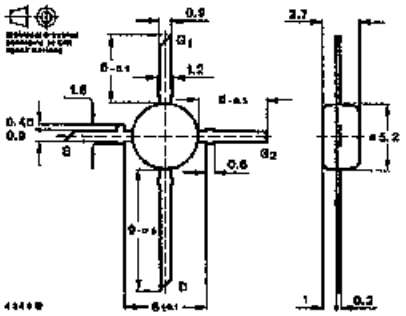
N-Channel-GaAs-MESFET-Tetrode Depletion Mode

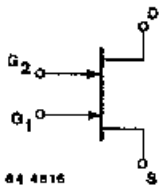
Applications: Gain controlled amplifiers and mixers up to 2 GHz in common source configuration; in wireless telephone, broadcast sets, cabel TV and equipments with low power supply.

Features:

- Low noise figure
- High gain
- Low input capacitance
- High AGC-range
- Large input signal behaviour
- Near constant characteristics in frequency range $f = 0.1 \ldots 2$ GHz
- Very low cross modulation

Dimensions in mm





Case
50B4 DIN 41867
JEDEC TO 50
Weight max. 0.1 g

Absolute maximum ratings

Drain Source voltage	V_{DS}	10	V
Drain current	I_D	80	mA
Gate 1/Gate 2-peak current	I_G	1	mA
Gate1/Gate 2-Source voltage	V_{GS}	6	V
Total power dissipation $T_{amb} \leq$ see page A 24, Fig. 6.3	P_{tot}	200	mW
Channel temperature	T_C	125	°C
Storage temperature range	T_{stg}	−55...+125	°C

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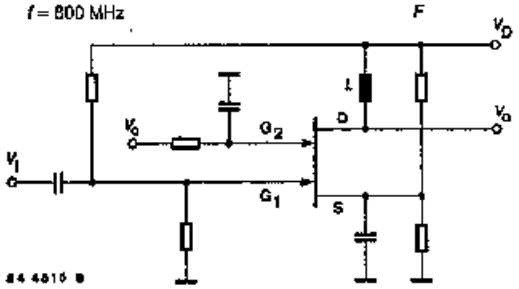
DC-Characteristics $T_{amb} = 25\,°C$		Min.	Typ.	Max.	
Drain-Source break down voltage $I_D = 50\,\mu A$, $V_{G1S} = -6\,V$, $V_{G2S} = 0$	$V_{(BR)DS}$	10			V
Gate 1-Source cut-off current $V_{G1S} = -6\,V$, $V_{DS} = V_{G2S} = 0$	I_{G1SS}			20	µA
Gate 2-Source cut-off current $V_{G2S} = -6\,V$, $V_{DS} = V_{G1S} = 0$	I_{G2SS}			20	µA
Gate 1-Source cut-off voltage $V_{DS} = 5\,V$, $V_{G2S} = 0$, $I_D = 200\,\mu A$	$-V_{G1S(p)}$		3	6	V
Gate 2-Source cut-off voltage $V_{DS} = 5\,V$, $V_{G1S} = 0$, $I_D = 200\,\mu A$	$-V_{G2S(p)}$		3	5	V
Drain current $V_{DS} = 5\,V$, $V_{G1S} = V_{G2S} = 0$	I_{DSS} [1]	10	40	80	mA
AC-Characteristics $V_{DS} = 5\,V$, $V_{G2S} = 2\,V$, $I_D = 10\,mA$, $T_{amb} = 25\,°C$					
Forward transfer admittance $f = 1$ MHz	$\lvert y_{21} \rvert$		25		mS
Gate 1-Source capacitance $f = 1$ MHz	C_{11}		0.9	1.2	pF
Drain-Source capacitance $f = 1$ MHz	C_{22}		0.6	0.9	pF
Power gain $f = 800$ MHz	G_{max}		23		dB
AGC range $V_{G2S} = +2 \ldots -6\,V$, $f = 800$ MHz	ΔG		50		dB
Noise figure $f = 800$ MHz	F		1.1		dB



V_c = control voltage

Typical application

[1] Available in I_{DSS}-groups on request
A: 10–35 mA, B: 30–50 mA, C: 45–80 mA