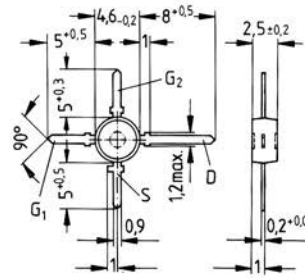
- Integrated suppression network against spurious VHF oscillations
- For VHF applications, especially in TV tuners with extended VHF band, e. g. CATV tuners

X-plast



Dimensions in mm

Type	BF 965
Ordering code	Q62702-F660

Maximum ratings

Drain-source voltage	V_{DS}	20	V
Drain current	I_D	30	mA
Gate 1/gate 2 peak source current	$\pm I_{G1/2SM}$	10	mA
Total power dissipation $T_A \leq 60\,°C$	P_{tot}	200	mW
Storage temperature range	T_{stg}	−55... + 150	°C
Channel temperature	T_{Ch}	150	°C

Thermal resistance

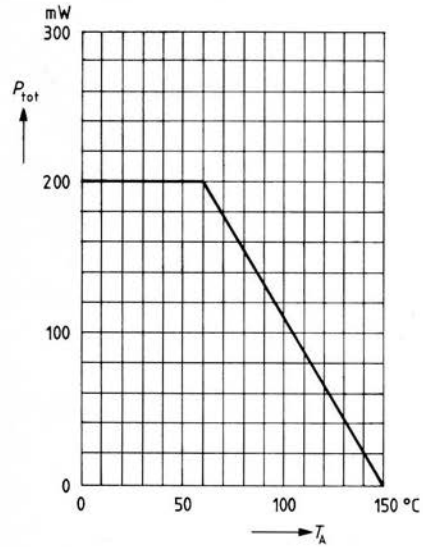
Junction — ambient	R_{thJA}	≤ 450	K/W

Characteristics ($T_A = 25\,°C$)

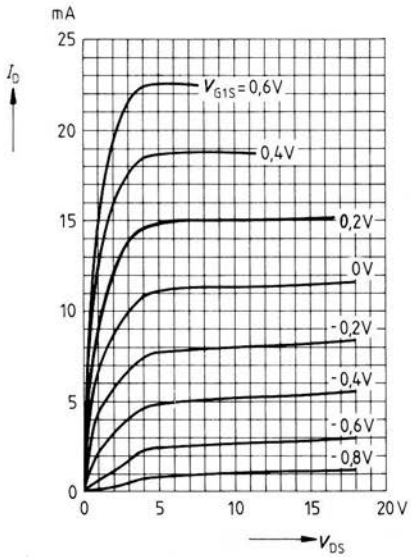
DC characteristics		**min**	**typ**	**max**	
Drain-source breakdown voltage $I_D = 10\ \mu A,\ -V_{G1S} = -V_{G2S} = 4\ V$	$V_{(BR)\,DS}$	20	—	—	V
Gate 1 source breakdown voltage $\pm I_{G1S} = 10\ mA,\ V_{G2S} = V_{DS} = 0$	$\pm V_{(BR)\,G1SS}$	8,5	—	17	V
Gate 2 source breakdown voltage $\pm I_{G2S} = 10\ mA,\ V_{G1S} = V_{DS} = 0$	$\pm V_{(BR)\,G2SS}$	8,5	—	17	V
Gate 1 source leakage current $\pm V_{G1S} = 5\ V,\ V_{G2S} = V_{DS} = 0$	$\pm I_{G1SS}$	—	—	50	nA
Gate 2 source leakage current $\pm V_{G2S} = 5\ V,\ V_{G1S} = V_{DS} = 0$	$\pm I_{G2SS}$	—	—	50	nA
Drain current $V_{DS} = 15\ V,\ V_{G1S} = 0,\ V_{G2S} = 4\ V$	I_{DSS}	2	—	20	mA
Gate 1 source pinch-off voltage $V_{DS} = 15\ V,\ V_{G2S} = 4\ V,\ I_D = 20\ \mu A$	$-V_{G1S\,(p)}$	—	—	2,5	V
Gate 2 source pinch-off voltage $V_{DS} = 15\ V,\ V_{G1S} = 0,\ I_D = 20\ \mu A$	$-V_{G2S\,(p)}$	—	—	2,0	V

AC characteristics					
Forward transconductance $V_{DS} = 15\ V,\ I_D = 10\ mA,\ V_{G2S} = 4\ V,\ f = 1\ kHz$	g_{fs}	15	18	—	mS
Gate 1 input capacitance $V_{DS} = 15\ V,\ I_D = 10\ mA,\ V_{G2S} = 4\ V,\ f = 1\ MHz$	c_{g1ss}	—	2,5	—	pF
Gate 2 input capacitance $V_{DS} = 15\ V,\ I_D = 10\ mA,\ V_{G2S} = 4\ V,\ f = 1\ MHz$	c_{g2ss}	—	1,2	—	pF
Feedback capacitance $V_{DS} = 15\ V,\ I_D = 10\ mA,\ V_{G2S} = 4\ V,\ f = 1\ MHz$	c_{dg1}	—	25	—	fF
Output capacitance $V_{DS} = 15\ V,\ I_D = 10\ mA,\ V_{G2S} = 4\ V,\ f = 1\ MHz$	c_{dss}	—	1	—	pF
Power gain $V_{DS} = 15\ V,\ I_D = 10\ mA,$ $f = 200\ MHz,\ G_G = 2\ mS,\ G_L = 0{,}5\ mS$ (test circuit)	G_{ps}	—	25	—	dB
Noise figure $V_{DS} = 15\ V,\ I_D = 10\ mA$ $f = 200\ MHz,\ G_G = 2\ mS,\ G_L = 0{,}5\ mS$ (test circuit)	F	—	1	—	dB
Gain control range $V_{DS} = 15\ V,\ V_{G2S} = 4 \ldots -2\ V,\ f = 200\ MHz$ (test circuit)	ΔG_{ps}	50	—	—	dB

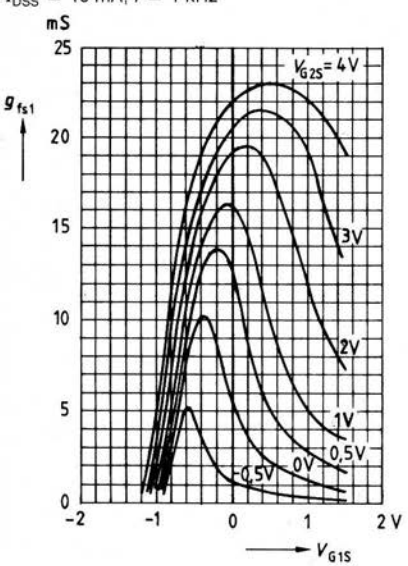
Total power dissipation $P_{tot} = f(T_A)$



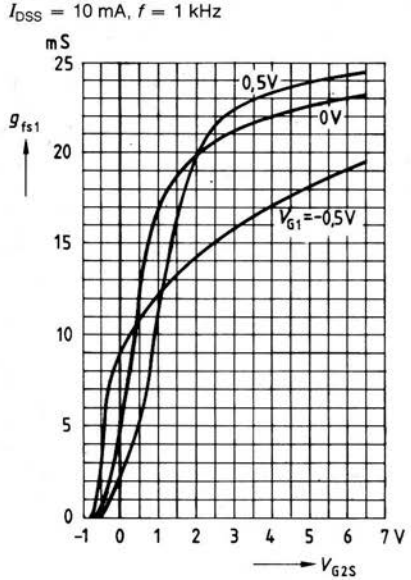
Output characteristics $I_D = f(V_{DS})$
$V_{G2S} = 4$ V



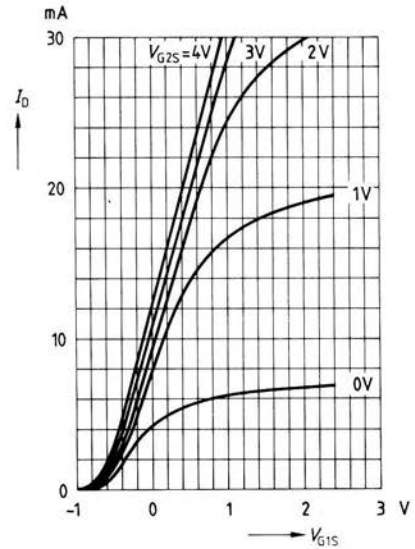
Gate 1 forward transconductance
$g_{fs1} = f(V_{G1S})$
$V_{DS} = 15$ V
$I_{DSS} = 10$ mA, $f = 1$ kHz



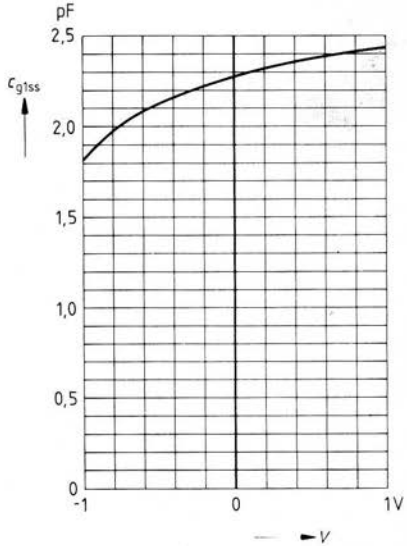
Gate 1 forward transconductance
$g_{fs1} = f(V_{G2S})$
$V_{DS} = 15$ V
$I_{DSS} = 10$ mA, $f = 1$ kHz



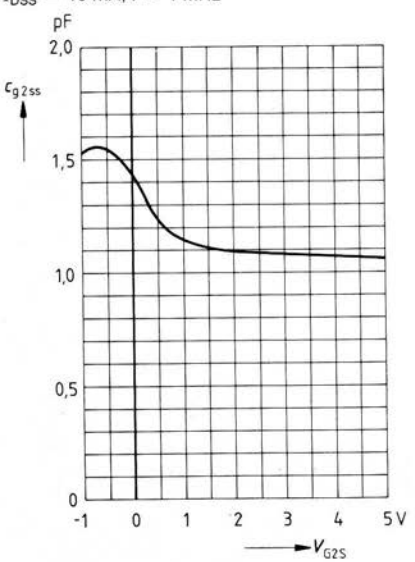
Drain current $I_D = f(V_{G1S})$
V_{DS} = 15 V



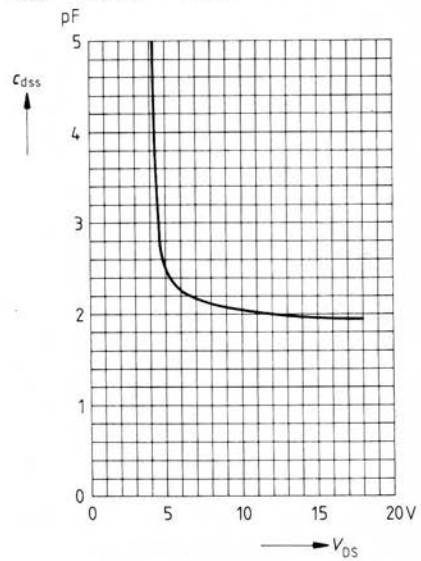
Gate 1 input capacitance $c_{g1ss} = f(V_{G1S})$
V_{G2S} = 4 V, V_{DS} = 15 V
I_{DSS} = 10 mA, f = 1 MHz



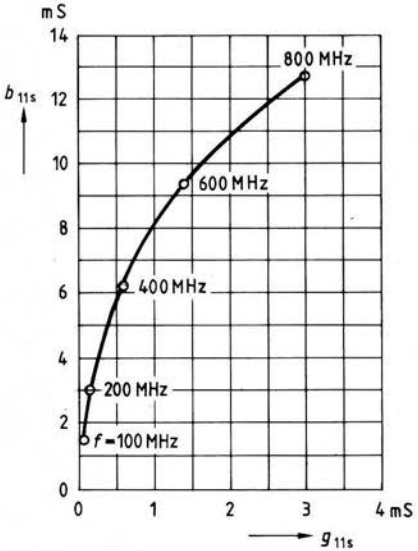
Gate 2 input capacitance $c_{g2ss} = f(V_{G2S})$
V_{G1S} = 0 V, V_{DS} = 15 V
I_{DSS} = 10 mA, f = 1 MHz



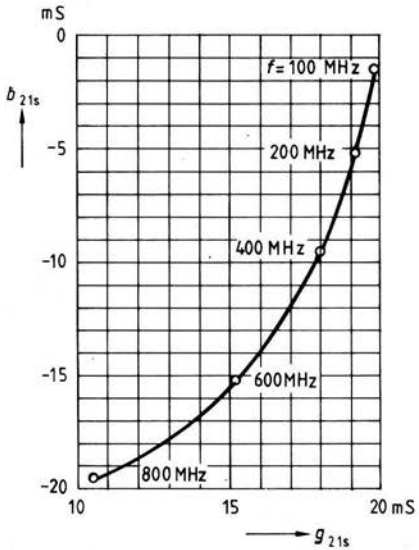
Output capacitance $c_{dss} = f(V_{DS})$
V_{G1S} = 0 V, V_{G2S} = 4 V
I_{DSS} = 10 mA, f = 1 MHz



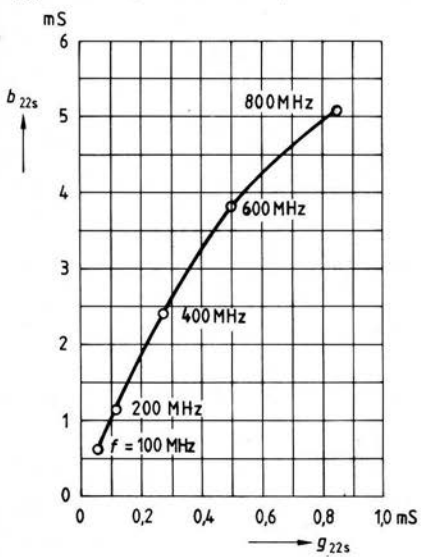
Gate 1 input admittance y_{11s}
V_{DS} = 15 V, V_{G2S} = 4 V, V_{G1S} = 0 V
I_{DSS} = 10 mA (common source)



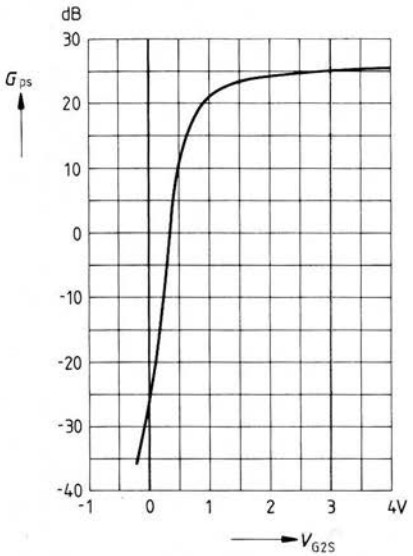
Gate 1 forward transfer admittance y_{21s}
V_{DS} = 15 V, V_{G2S} = 4 V, V_{G1S} = 0 V
I_{DSS} = 10 mA (common source)



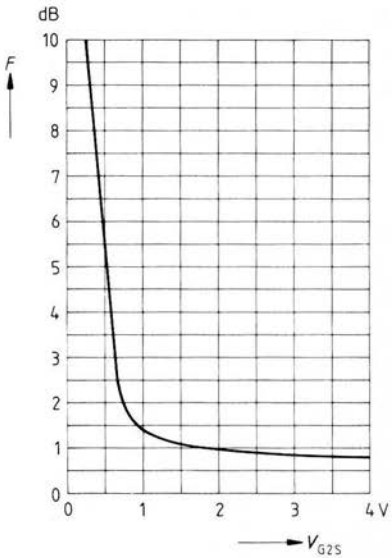
Output admittance y_{22s}
V_{DS} = 15 V, V_{G2S} = 4 V, V_{G1S} = 0 V
I_{DSS} = 10 mA (common source)



Power gain $G_{ps} = f(V_{G2S})$
V_{DS} = 15 V, V_{G1S} = 0 V, I_{DSS} = 10 mA
f = 200 MHz (see test circuit)



Noise figure $F = f(V_{G2S})$
V_{DS} = 15 V, V_{G1S} = 0 V, I_{DSS} = 10 mA
f = 200 MHz (see test circuit)



Test circuit for power gain and noise figure
f = 200 MHz, G_G = 2 mS, G_L = 0,5 mS