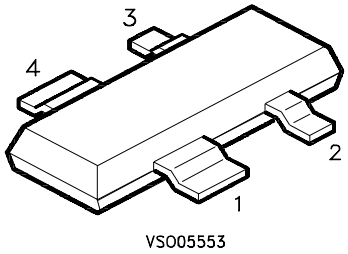
D a t a s h e e t

Features

* Very low noise
* Very high gain
* For low noise front end amplifiers up to 20 GHz
* For DBS down converters



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

Type	Marking	Ordering code (taped)	Package 1)
CFY77-08	HG	Q62702-F1549	MW-4
CFY77-10	HH	Q62702-F1559	MW-4

Maximum ratings	**Symbol**		**Unit**
Drain-source voltage	V_{DS}	3.5	V
Drain-gate voltage	V_{DG}	4.5	V
Gate-source voltage	V_{GS}	-3.0	V
Drain current	I_D	60	mA
Channel temperature	T_{Ch}	150	°C
Storage temperature range	T_{stg}	-65...+150	°C
Total power dissipation ($T_s \leq 51$°C) 2)	P_{tot}	180	mW
Thermal resistance			
Channel-soldering point source	R_{thChS}	550	K/W

1) Dimensions see chapter Package Outlines
2) T_S: Temperature measured at soldering point

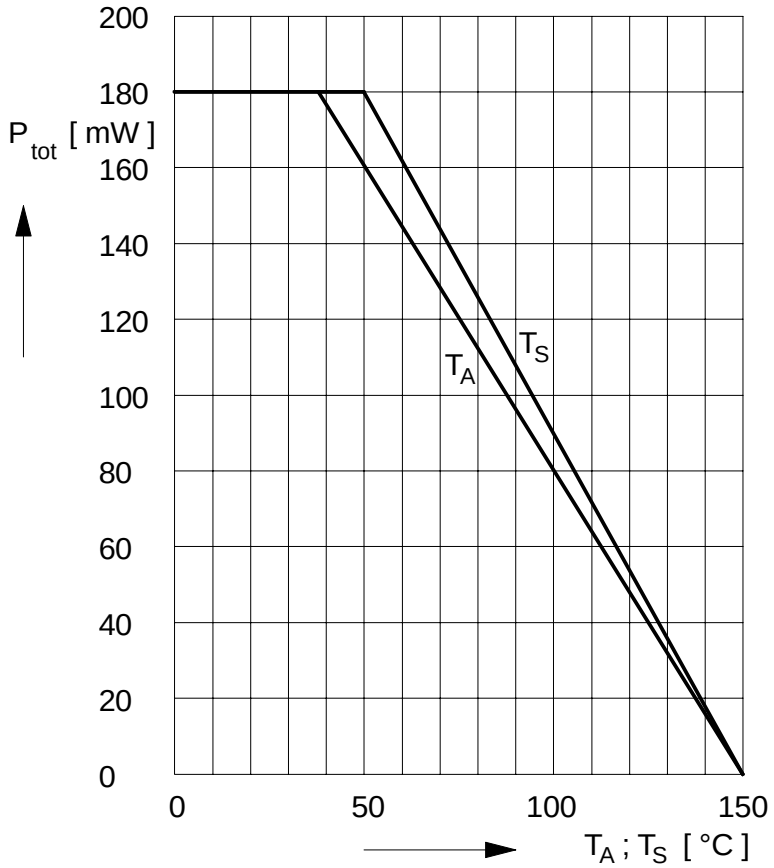
Electrical characteristics at T_A = 25°C

unless otherwise specified

Characteristics	Symbol	min	typ	max	Unit
Drain-source saturation current V_{DS} = 2 V V_{GS} = 0 V	I_{DSS}	15	30	60	mA
Pinch-off voltage V_{DS} = 2 V I_D = 1 mA	$V_{GS(P)}$	-2	-0.7	-0.2	V
Gate leakage current V_{DS} = 2 V I_D = 15 mA	I_G	-	0.05	2	µA
Transconductance V_{DS} = 2 V I_D = 15 mA	g_m	50	65	-	mS
Noise figure V_{DS} = 2 V I_D = 15 mA f = 12 GHz	F				dB
CFY77-08 CFY77-10		- -	0.7 0.9	0.8 1	
Associated gain V_{DS} = 2 V I_D = 15 mA f = 12 GHz	G_a				dB
CFY77-08 CFY77-10		10 9.5	10.5 10	- -	

Total Power Dissipation $P_{tot} = f(T_s;T_A)$

Package mounted on alumina



Typical Common Source Noise Parameters

I_D = 15 mA U_{DS} = 2.0 V Z_0 = 50 Ω

f	F_{min}	G_a	Γ_{opt}		R_n	r_n	N	$F_{50\Omega}$
GHz	dB	dB	MAG	ANG	Ω			dB
2	0.36	19.4	0.79	27	13.7	0.274	0.03	1.2
4	0.44	15.9	0.72	60	10.1	0.202	0.04	1.1
6	0.51	13.9	0.63	92	5.85	0.117	0.05	1.05
8	0.58	12.4	0.56	134	2.35	0.047	0.06	1.0
10	0.65	11.2	0.52	180	1.1	0.022	0.07	1.0
12	0.72	10.4	0.54	-135	2.9	0.058	0.08	1.1
14	0.80	9.7	0.59	-108	7.15	0.143	0.10	1.5

Typical Common Source S-Parameters

I_D = 15 mA U_D = 2.0 V Z_0 = 50 Ω

	S11		S21		S12		S22	
GHz	**Mag**	**Ang**	**Mag**	**Ang**	**Mag**	**Ang**	**Mag**	**Ang**
1	0.98	-22.8	5.55	159.6	0.030	87.5	0.633	-16.3
2	0.94	-46.1	5.40	139.3	0.053	57.8	0.60	-32.5
3	0.88	-68.4	5.09	120.1	0.074	44.9	0.54	-48.0
4	0.82	-90.6	4.77	101.2	0.089	30.7	0.48	-63.3
5	0.77	-110.8	4.45	84.0	0.101	18.1	0.42	-77.5
6	0.72	-131.4	4.16	67.3	0.112	7.9	0.35	-92.6
7	0.66	-153.6	3.88	50.2	0.119	-3.3	0.28	-110.8
8	0.63	-175.2	3.58	34.5	0.122	-12.7	0.22	-132.0
9	0.62	164.4	3.29	18.9	0.120	-22.0	0.16	-157.3
10	0.62	145.0	3.01	4.0	0.119	-29.5	0.14	177.3
11	0.64	128.3	2.76	-10.3	0.119	-37.4	0.15	136.2
12	0.64	113.1	2.51	-23.5	0.114	-44.0	0.18	115.4
13	0.66	101.3	2.32	-35.7	0.114	-47.3	0.23	100.9
14	0.67	89.4	2.18	-48.2	0.116	-53.1	0.25	91.0
15	0.69	73.6	2.06	-62.4	0.116	-58.6	0.28	75.4
16	0.73	59.2	1.85	-75.9	0.115	-65.8	0.36	57.1
17	0.76	51.7	1.65	-86.5	0.112	-69.4	0.39	53.1
18	0.78	45.4	1.56	-96.7	0.115	-72.3	0.42	43.8
19	0.77	36.2	1.51	-108.6	0.121	-76.7	0.44	38.8