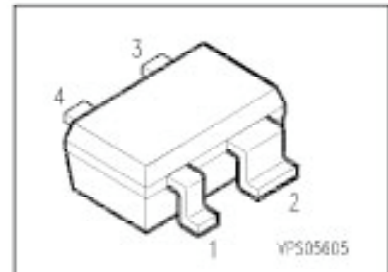


SILICON N-CHANNEL MOSFET TETRODE

- For low-noise, gain-controlled input stages up to 1 GHz
- Operating voltage 12 V
- Integrated bias Network



Type	Marking	Ordering Code (8-mm taped)	Pin Configuration				Package 1)
			1	2	3	4	
BF1012W	MYs	Q62702-F1587	D	S	G1	G2	SOT343

Maximum Ratings

Parameter	Symbol	BF1012W	Unit
Drain-source voltage	V_{DS}	16	V
Drain current	I_D	40	mA
Gate 1/Gate 2 peak source current	$\pm I_{G1,G2SM}$	10	mA
Total power dissipation, $T_S \leq 94^\circ\text{C}$	P_{tot}	200	mW
Storage temperature range	T_{stg}	-55...+150°C	°C
Channel temperature	T_{ch}	150	°C

Thermal Resistance

Junction-soldering point source	$R_{th JS}$	≤ 280	K/W
---------------------------------	-------------	------------	-----

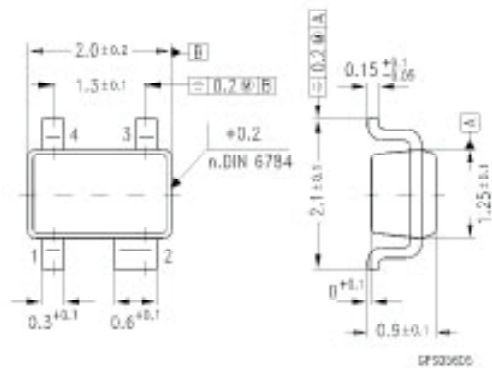
1)For detailed information see page 3

Electrical Characteristics

at $T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified.

Parameter	Symbol	Value			Unit
		min.	typ.	max.	
DC characteristics					
Gate 1-source breakdown voltage $+I_{G1S} = 10\text{ mA}$, $V_{G2S} = V_{DS} = 0\text{ V}$	$+V_{(BR)G1SS}$	8	-	12	V
Gate 2-source breakdown voltage $\pm I_{G2S} = 10\text{ mA}$, $V_{G1S} = V_{DS} = 0\text{ V}$	$\pm V_{(BR)G2SS}$	8	-	12	V
Gate 1-source leakage current $+V_{G1S} = 8\text{ V}$, $V_{G2S} = V_{DS} = 0\text{ V}$	$+I_{G1SS}$	-	-	100	μA
Gate 2-source leakage current $\pm V_{G2S} = 8\text{ V}$, $V_{G1S} = V_{DS} = 0\text{ V}$	$\pm I_{G2SS}$	-	-	50	nA
Drain current $V_{DS} = 12\text{ V}$, $V_{G1S} = 0\text{ V}$, $V_{G2S} = 6\text{ V}$	I_{DSS}	-	-	500	μA
Operating current (selfbiased) $V_{DS} = 12\text{ V}$, $V_{G2S} = 6\text{ V}$	I_{D50}	8	10	14	mA
AC characteristics					
Forward transconductance $V_{DS} = 12\text{ V}$, $V_{G2S} = 6\text{ V}$, $f = 1\text{ kHz}$	g_{fs}	22	25	-	mS
Gate 1-input capacitance $V_{DS} = 12\text{ V}$, $V_{G2S} = 6\text{ V}$, $f = 1\text{ MHz}$	C_{G1ss}	-	2.1	2.4	pF
Output capacitance $V_{DS} = 12\text{ V}$, $V_{G2S} = 6\text{ V}$, $f = 1\text{ MHz}$	C_{dss}	-	0.9	-	pF
Power gain $V_{DS} = 12\text{ V}$, $V_{G2S} = 6\text{ V}$, $f = 800\text{ MHz}$	G_{ps}	-	22.5	-	dB
Noise figure $V_{DS} = 12\text{ V}$, $V_{G2S} = 6\text{ V}$, $f = 800\text{ MHz}$	F	-	1.4	-	dB
Gain control range $V_{DS} = 12\text{ V}$, $V_{G2S} = 6\text{.....}1\text{ V}$, $f = 800\text{ MHz}$	ΔG_{ps}	40	50	-	dB

Package



Published by Siemens AG, Bereich Bauelemente, Vertrieb,
Produkt-Information, Balanstraße 73, D-81541 München
© Siemens AG 1994. 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.

Siemens general policy does not recommend the use of its components in life support applications wherein a failure or malfunction of the component may directly threaten life or injury. Per Siemens Terms and Conditions of Sale, the user of Siemens components in life support applications assumes all risks of such use and indemnifies Siemens against all damages.

Packing: Please use the recycling operators known to you. We can also help you - get in touch with your nearest sales office. By agreement we will take packing material back, if it is sorted. You must bear the costs of transport. For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.