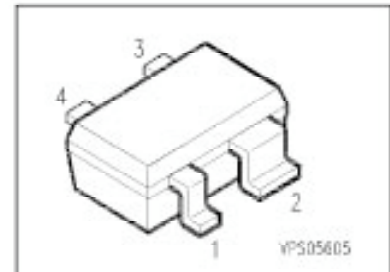


SILICON N-CHANNEL MOSFET TETRODE

- 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
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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 $V_{DS} = 12\text{ V}$, $V_{G2S} = 6\dots 1\text{ V}$, $f = 800\text{ MHz}$	ΔG_{ps}	40	50	-	dB

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