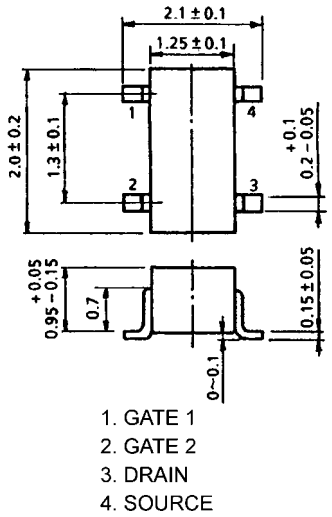
Preliminary

TOSHIBA Field Effect Transistor
GaAs N-Channel Dual Gate MES Type

3SK320

UHF Band Low Noise Amp
UHF Band Mix

Unit: mm



1. GATE 1
2. GATE 2
3. DRAIN
4. SOURCE

USQ

JEDEC	—
JEITA	—
TOSHIBA	2-2K1B

Weight: 0.006 g (typ.)

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Gate 1-drain voltage	V_{G1DO}	−6	V
Gate 2-drain voltage	V_{G2DO}	−6	V
Gate 1-source voltage	V_{G1S}	−4	V
Gate 2-source voltage	V_{G2S}	−4	V
Gate 1 current	I_{G1}	1	mA
Gate 2 current	I_{G2}	1	mA
Power dissipation	P_D	100	mW
Channel temperature	T_{ch}	125	°C
Storage temperature range	T_{stg}	−55~125	°C

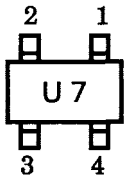
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate 1 leakage current	I_{G1SS}	V_{DS} = 0, V_{G1S} = −3 V, V_{G2S} = 0	—	—	−4	μA
Gate 2 leakage current	I_{G2SS}	V_{DS} = 0, V_{G1S} = 0, V_{G2S} = −3 V	—	—	−4	μA
Drain current	I_{DSS}	V_{DS} = 3 V, V_{G1S} = 0, V_{G2S} = 0	9	—	18	mA
Gate 1-source cut-off voltage	$V_{G1S\ (OFF)}$	V_{DS} = 3 V, V_{G2S} = 0, I_D = 100 μA	−0.8	—	−1.4	V
Gate 2-source cut-off voltage	$V_{G2S\ (OFF)}$	V_{DS} = 3 V, V_{G1S} = 0, I_D = 100 μA	−0.8	—	−1.4	V
Forward transfer admittance	$\lvert Y_{fs} \rvert$	V_{DS} = 3 V, V_{G2S} = 1 V, I_D = 5 mA, f = 1 kHz	—	22	—	mS
Input capacitance	C_{iss}	V_{DS} = 3 V, V_{G2S} = 1 V, I_D = 5 mA, f = 1 MHz	—	0.6	1.4	pF
Reverse transfer capacitance	C_{rss}	V_{DS} = 3 V, V_{G2S} = 1 V, I_D = 5 mA, f = 1 MHz	—	0.012	0.03	pF
Power gain (1)	G_{ps} (1)	V_{DS} = 3 V, V_{G2S} = 1 V, I_D = 5 mA, f = 800 MHz	—	20.5	—	dB
Noise figure (1)	NF (1)	V_{DS} = 3 V, V_{G2S} = 1 V, I_D = 5 mA, f = 800 MHz	—	0.9	—	dB
Power gain (2)	G_{ps} (2)	V_{DS} = 3 V, V_{G2S} = 1 V, I_D = 5 mA, f = 2 GHz	12	15	—	dB
Noise figure (2)	NF (2)	V_{DS} = 3 V, V_{G2S} = 1 V, I_D = 5 mA, f = 2 GHz	—	1.4	2.2	dB

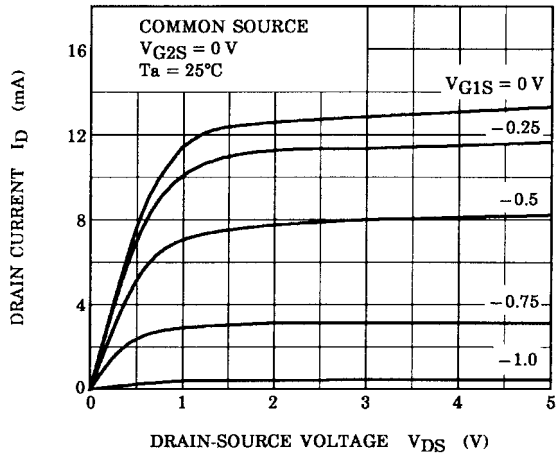
Caution

This device electrostatic sensitivity. Please handle with caution.

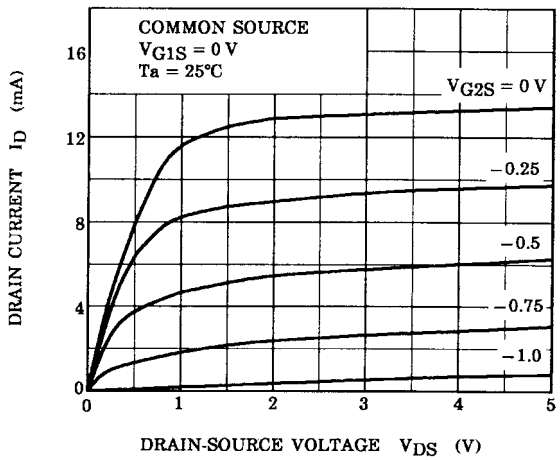
Marking



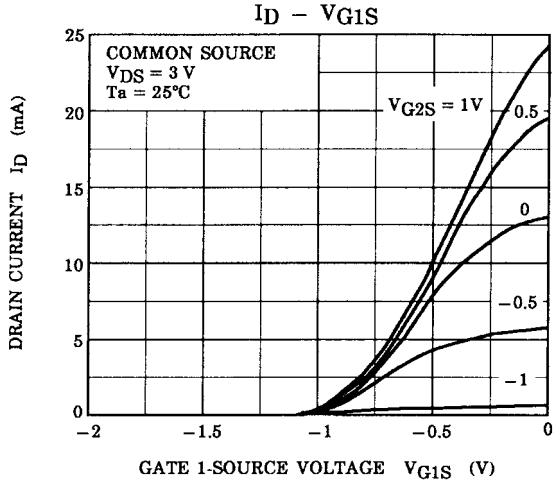
$I_D - V_{DS}$



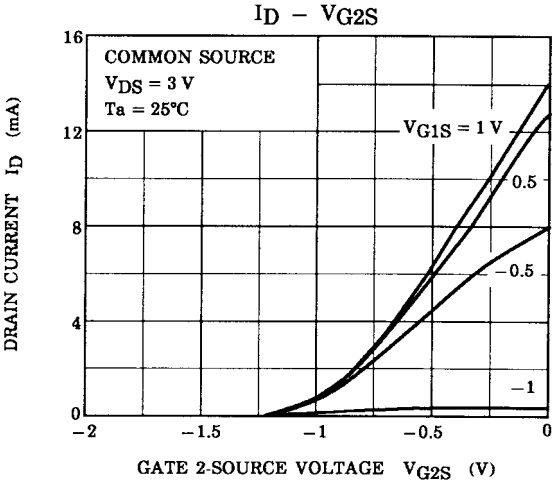
$I_D - V_{DS}$



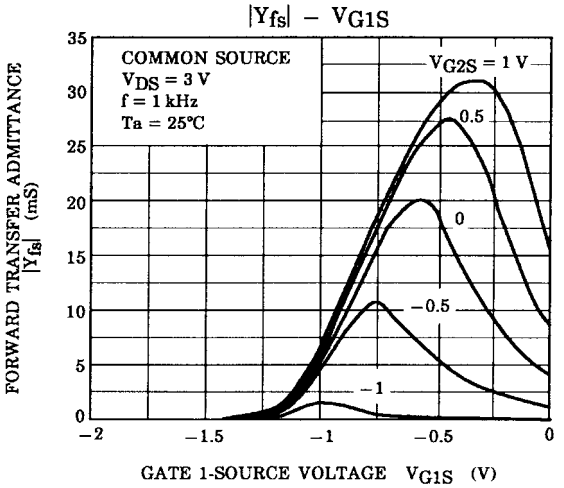
$I_D - V_{G1S}$



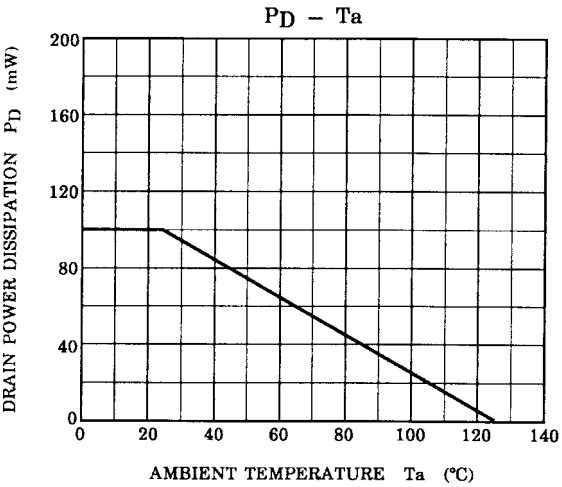
$I_D - V_{G2S}$



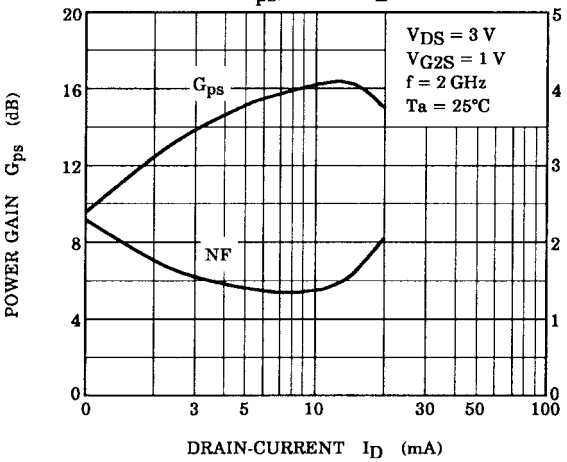
$|Y_{fs}| - V_{G1S}$



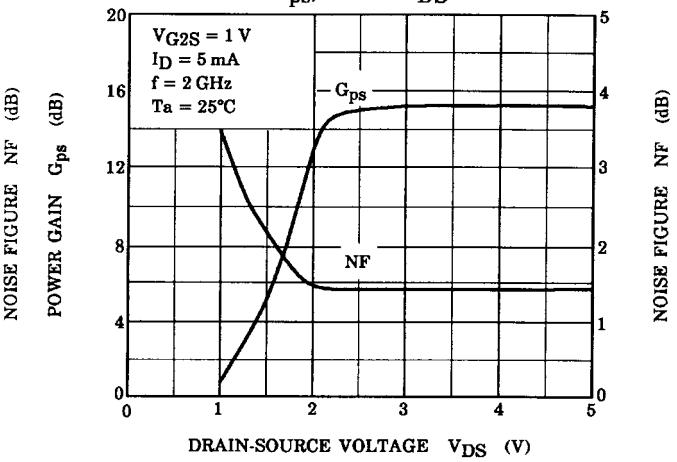
$P_D - Ta$



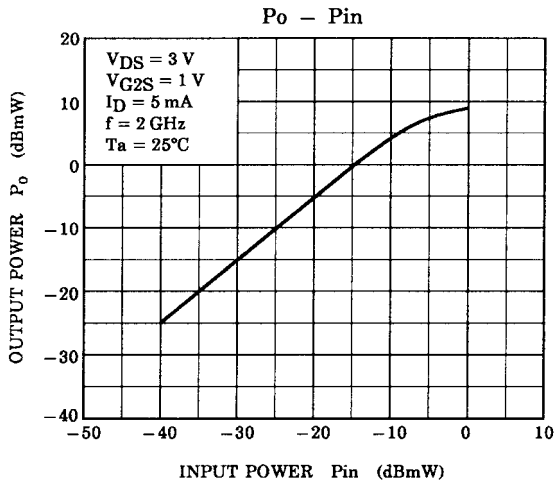
G_{ps}, NF – I_D



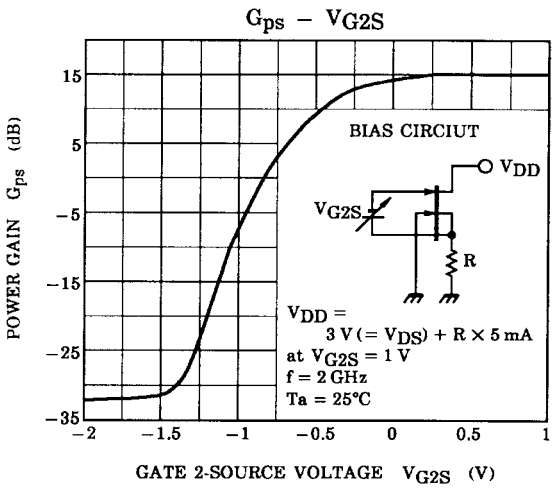
G_{ps}, NF – V_{DS}



P_O – Pin



G_{ps} – V_{G2S}



S-Parameter (V_{DS} = 2 V, I_D = 2 mA, V_{G2S} = 0.5 V, Ta = 25°C, Z_L = Z_S = 50 Ω)

FREQ. (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.998	−3.5	1.196	174.7	0.0019	59.4	0.968	−2.1
200	0.996	−4.9	1.195	172.8	0.0026	63.7	0.967	−2.9
300	0.992	−6.9	1.194	170.4	0.0034	66.0	0.966	−3.9
400	0.990	−9.3	1.195	167.2	0.0044	69.9	0.964	−5.2
500	0.984	−11.6	1.193	164.1	0.0051	79.0	0.963	−6.6
600	0.979	−14.0	1.195	161.0	0.0064	79.3	0.962	−7.8
700	0.971	−16.3	1.197	158.1	0.0070	77.2	0.960	−9.2
800	0.963	−18.6	1.202	155.0	0.0075	80.3	0.959	−10.5
900	0.953	−20.8	1.202	152.1	0.0083	79.3	0.958	−11.8
1000	0.945	−23.1	1.209	148.9	0.0087	77.5	0.956	−13.1
1100	0.935	−25.2	1.208	145.9	0.0087	74.9	0.954	−14.5
1200	0.926	−27.5	1.214	142.5	0.0093	78.1	0.951	−15.8
1300	0.918	−29.7	1.217	139.4	0.0098	79.5	0.948	−17.1
1400	0.906	−32.1	1.223	136.0	0.0102	78.9	0.946	−18.4
1500	0.895	−34.4	1.226	132.9	0.0107	75.9	0.944	−19.8
1600	0.882	−36.7	1.231	129.5	0.0107	74.8	0.943	−21.1
1700	0.867	−39.0	1.229	126.2	0.0106	75.7	0.941	−22.4
1800	0.854	−41.2	1.229	122.6	0.0108	71.6	0.939	−23.8
1900	0.839	−43.4	1.229	119.5	0.0109	68.6	0.936	−25.2
2000	0.824	−45.5	1.232	115.8	0.0106	71.8	0.933	−26.5
2100	0.810	−47.7	1.227	112.6	0.0116	70.2	0.929	−27.9
2200	0.796	−50.0	1.227	108.8	0.0119	67.2	0.927	−29.2
2300	0.778	−52.2	1.226	105.6	0.0116	65.5	0.924	−30.6
2400	0.761	−54.2	1.225	101.7	0.0118	66.2	0.923	−31.9
2500	0.746	−55.9	1.221	98.6	0.0125	63.0	0.921	−33.0
2600	0.735	−57.1	1.228	96.1	0.0123	63.5	0.921	−33.8

S-Parameter (V_{DS} = 2 V, I_D = 5 mA, V_{G2S} = 0.5 V, Ta = 25°C, Z_L = Z_S = 50 Ω)

FREQ. (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.997	−4.3	1.913	174.3	0.0017	113.5	0.953	−2.1
200	0.995	−5.8	1.909	172.3	0.0021	103.9	0.953	−2.9
300	0.990	−7.8	1.904	169.8	0.0029	95.8	0.952	−4.0
400	0.984	−10.4	1.900	166.4	0.0035	87.2	0.951	−5.3
500	0.977	−12.9	1.897	163.1	0.0036	82.1	0.950	−6.6
600	0.969	−15.3	1.896	159.9	0.0045	81.8	0.948	−7.9
700	0.959	−17.8	1.894	156.6	0.0051	84.0	0.946	−9.3
800	0.950	−20.4	1.896	153.3	0.0057	81.4	0.944	−10.6
900	0.938	−22.9	1.892	150.2	0.0069	81.1	0.941	−11.9
1000	0.925	−25.4	1.895	146.9	0.0077	83.9	0.940	−13.2
1100	0.912	−28.0	1.892	143.8	0.0088	84.4	0.938	−14.5
1200	0.899	−30.6	1.897	140.3	0.0093	81.3	0.936	−15.8
1300	0.884	−32.9	1.893	137.0	0.0092	82.1	0.935	−17.1
1400	0.870	−35.3	1.896	133.5	0.0090	84.4	0.933	−18.4
1500	0.855	−37.7	1.893	130.1	0.0099	79.8	0.931	−19.8
1600	0.837	−39.9	1.892	126.6	0.0097	79.2	0.929	−21.2
1700	0.818	−42.1	1.881	123.1	0.0100	76.7	0.925	−22.6
1800	0.799	−44.2	1.874	119.4	0.0108	75.4	0.923	−24.0
1900	0.780	−46.4	1.865	116.1	0.0115	73.4	0.919	−25.4
2000	0.761	−48.5	1.857	112.4	0.0115	72.8	0.916	−26.8
2100	0.744	−50.7	1.843	109.0	0.0120	69.6	0.915	−28.1
2200	0.725	−52.6	1.831	105.3	0.0120	73.8	0.913	−29.6
2300	0.708	−54.5	1.820	102.0	0.0113	71.6	0.913	−30.9
2400	0.688	−56.3	1.810	98.1	0.0119	72.2	0.913	−32.2
2500	0.672	−57.8	1.801	95.1	0.0127	75.0	0.913	−33.4
2600	0.659	−58.8	1.805	92.5	0.0136	77.8	0.913	−34.2

S-Parameter (V_{DS} = 2 V, I_D = 10 mA, V_{G2S} = 0.5 V, Ta = 25°C, Z_L = Z_S = 50 Ω)

FREQ. (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.993	−4.6	2.468	173.8	0.0006	61.7	0.936	−2.1
200	0.991	−6.2	2.464	171.6	0.0018	81.6	0.936	−2.9
300	0.987	−8.5	2.455	168.7	0.0028	91.9	0.935	−3.9
400	0.981	−11.4	2.450	165.0	0.0044	91.0	0.934	−5.3
500	0.973	−14.1	2.443	161.4	0.0050	88.7	0.933	−6.6
600	0.962	−16.9	2.436	157.8	0.0058	89.1	0.932	−7.9
700	0.951	−19.7	2.425	154.3	0.0063	86.0	0.930	−9.2
800	0.937	−22.4	2.424	150.6	0.0072	79.9	0.928	−10.5
900	0.921	−25.0	2.411	147.2	0.0079	75.4	0.927	−11.8
1000	0.905	−27.7	2.406	143.7	0.0084	73.9	0.925	−13.1
1100	0.887	−30.3	2.393	140.2	0.0087	77.3	0.922	−14.4
1200	0.869	−32.8	2.393	136.5	0.0092	80.0	0.920	−15.7
1300	0.853	−35.3	2.380	133.0	0.0095	79.5	0.919	−17.0
1400	0.835	−37.7	2.378	129.3	0.0091	80.8	0.917	−18.4
1500	0.818	−40.0	2366	125.8	0.0095	79.8	0.915	−19.7
1600	0.799	−42.3	2.359	122.1	0.0101	78.2	0.914	−21.1
1700	0.778	−44.5	2.339	118.5	0.0105	78.1	0.912	−22.6
1800	0.757	−46.7	2.319	114.6	0.0105	78.1	0.910	−23.9
1900	0.735	−48.8	2.299	111.1	0.0114	78.4	0.908	−25.3
2000	0.712	−51.0	2.281	107.1	0.0119	79.5	0.907	−26.8
2100	0.692	−53.1	2.256	103.5	0.0122	78.9	0.904	−28.2
2200	0.672	−55.1	2.230	99.5	0.0124	77.5	0.904	−29.6
2300	0.652	−56.9	2.212	96.2	0.0126	74.9	0.904	−31.0
2400	0.633	−58.5	2.191	92.1	0.0122	72.9	0.904	−32.4
2500	0.617	−59.6	2.171	89.0	0.0119	71.5	0.904	−33.6
2600	0.603	−60.4	2.171	86.3	0.0114	68.9	0.905	−34.5

(V_{DS} = 3 V, I_D = 2 mA, V_{G2S} = 1 V, Ta = 25°C, Z_L = Z_S = 50 Ω)

FREQ. (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.997	−3.7	1.220	175.0	0.0027	58.3	0.973	−2.0
200	0.996	−5.0	1.218	173.1	0.0031	68.8	0.973	−2.7
300	0.994	−6.8	1.218	170.7	0.0034	76.3	0.972	−3.7
400	0.990	−9.1	1.217	167.6	0.0040	81.2	0.970	−4.9
500	0.985	−11.4	1.216	164.6	0.0043	83.2	0.970	−6.1
600	0.980	−13.7	1.217	161.6	0.0048	87.8	0.968	−7.3
700	0.973	−16.0	1.217	158.8	0.0050	83.1	0.966	−8.6
800	0.963	−18.2	1.219	155.7	0.0054	76.7	0.964	−9.9
900	0.956	−20.4	1.219	152.9	0.0063	75.7	0.961	−11.1
1000	0.947	−22.6	1.225	149.9	0.0074	75.1	0.958	−12.3
1100	0.937	−24.9	1.227	146.9	0.0077	75.6	0.956	−13.6
1200	0.926	−27.2	1.237	143.6	0.0086	75.9	0.955	−14.8
1300	0.917	−29.3	1.240	140.6	0.0093	78.2	0.953	−16.0
1400	0.905	−31.6	1.246	137.3	0.0093	76.0	0.951	−17.3
1500	0.893	−33.8	1.249	134.2	0.0095	71.5	0.950	−18.5
1600	0.883	−36.1	1.253	131.0	0.0099	68.8	0.948	−19.8
1700	0.870	−38.3	1.252	127.7	0.0101	71.0	0.945	−21.1
1800	0.856	−40.5	1.251	124.1	0.0097	70.5	0.942	−22.4
1900	0.842	−42.6	1.252	121.0	0.0095	72.2	0.940	−23.6
2000	0.828	−44.8	1.254	117.5	0.0096	75.1	0.939	−24.9
2100	0.811	−47.1	1.252	114.3	0.0100	73.8	0.936	−26.1
2200	0.795	−49.1	1.249	110.6	0.0091	70.5	0.935	−27.4
2300	0.781	−51.2	1.248	107.8	0.0095	68.1	0.934	−28.6
2400	0.765	−53.4	1.247	104.0	0.0092	69.3	0.933	−29.9
2500	0.753	−54.9	1.243	101.1	0.0084	71.2	0.932	−30.9
2600	0.744	−56.0	1.248	98.5	0.0077	77.0	0.933	−31.7

S-Parameter (V_{DS} = 3 V, I_D = 5 mA, V_{G2S} = 1 V, Ta = 25°C, Z_L = Z_S = 50 Ω)

FREQ. (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.995	−4.2	1.923	174.6	0.0012	133.1	0.963	−2.0
200	0.992	−5.6	1.919	172.6	0.0020	112.8	0.963	−2.7
300	0.989	−7.6	1.914	170.0	0.0027	104.4	0.961	−3.7
400	0.984	−10.1	1.912	166.7	0.0035	93.7	0.959	−4.9
500	0.978	−12.5	1.910	163.5	0.0039	90.3	0.958	−6.2
600	0.971	−15.0	1.909	160.3	0.0050	81.0	0.956	−7.4
700	0.964	−17.5	1.907	157.3	0.0054	78.4	0.954	−8.6
800	0.952	−20.0	1.909	154.0	0.0065	74.9	0.952	−9.8
900	0.941	−22.4	1.903	150.9	0.0075	76.3	0.950	−11.1
1000	0.927	−25.0	1.906	147.6	0.0078	78.6	0.949	−12.3
1100	0.913	−27.5	1.901	144.5	0.0084	80.3	0.947	−13.5
1200	0.897	−29.9	1.905	141.1	0.0088	77.5	0.945	−14.7
1300	0.884	−32.3	1.901	138.0	0.0082	77.8	0.944	−16.0
1400	0.870	−34.7	1.902	134.5	0.0082	70.5	0.942	−17.2
1500	0.854	−36.8	1.899	131.4	0.0092	68.5	0.940	−18.3
1600	0.837	−39.0	1.901	128.0	0.0096	71.0	0.939	−19.6
1700	0.820	−41.3	1.891	124.7	0.0101	72.4	0.936	−20.8
1800	0.803	−43.5	1.882	121.0	0.0102	72.3	0.933	−22.0
1900	0.784	−45.5	1.873	117.8	0.0107	79.0	0.930	−23.3
2000	0.765	−47.5	1.864	114.0	0.0104	79.9	0.928	−24.5
2100	0.747	−49.5	1.849	110.8	0.0099	76.7	0.925	−25.8
2200	0.726	−51.5	1.833	107.0	0.0090	75.2	0.923	−27.1
2300	0.705	−53.4	1.824	104.0	0.0094	76.1	0.923	−28.3
2400	0.686	−55.5	1.812	100.2	0.0087	73.4	0.922	−29.5
2500	0.672	−57.1	1.801	97.4	0.0087	75.1	0.921	−30.5
2600	0.660	−58.3	1.807	94.8	0.0086	77.6	0.921	−31.2

(V_{DS} = 3 V, I_D = 10 mA, V_{G2S} = 1 V, Ta = 25°C, Z_L = Z_S = 50 Ω)

FREQ. (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.989	−4.4	2.577	174.0	0.0019	85.2	0.954	−1.9
200	0.987	−6.1	2.569	171.8	0.0023	80.5	0.953	−2.6
300	0.984	−8.4	2.559	169.0	0.0026	89.3	0.952	−3.6
400	0.980	−11.2	2.550	165.3	0.0033	78.1	0.951	−4.8
500	0.972	−13.9	2.543	161.8	0.0037	76.2	0.949	−6.1
600	0.964	−16.6	2.534	158.2	0.0042	74.8	0.948	−7.2
700	0.954	−19.1	2.524	154.8	0.0049	75.7	0.946	−8.5
800	0.939	−21.7	2.520	151.3	0.0057	75.3	0.944	−9.7
900	0.924	−24.3	2.505	148.0	0.0062	76.7	0.942	−10.9
1000	0.906	−26.8	2.501	144.5	0.0068	79.4	0.939	−12.1
1100	0.888	−29.3	2.484	141.2	0.0077	84.4	0.938	−13.3
1200	0.870	−31.8	2.479	137.6	0.0079	84.6	0.935	−14.5
1300	0.853	−34.2	2.462	134.2	0.0086	83.4	0.933	−15.6
1400	0.834	−36.7	2.457	130.5	0.0089	84.4	0.932	−16.9
1500	0.818	−39.0	2.439	127.1	0.0092	78.2	0.930	−18.1
1600	0.799	−41.3	2.427	123.5	0.0090	72.0	0.928	−19.3
1700	0.780	−43.4	2.404	120.0	0.0090	74.7	0.926	−20.6
1800	0.757	−45.4	2.381	116.1	0.0089	69.7	0.925	−21.8
1900	0.735	−47.3	2.354	112.9	0.0089	69.8	0.922	−23.0
2000	0.713	−49.5	2.334	109.1	0.0086	75.4	0.919	−24.2
2100	0.692	−51.3	2.304	105.7	0.0091	78.6	0.917	−25.5
2200	0.668	−53.0	2.275	101.9	0.0088	81.3	0.915	−26.7
2300	0.650	−54.8	2.251	98.8	0.0087	85.5	0.915	−27.9
2400	0.627	−56.3	2.227	95.0	0.0087	91.2	0.915	−29.1
2500	0.609	−57.2	2.204	92.1	0.0092	94.2	0.916	−30.0
2600	0.593	−58.1	2.200	89.7	0.0091	99.3	0.917	−30.7

S-Parameter (V_{DS} = 5 V, I_D = 2 mA, V_{G2S} = 1.5 V, Ta = 25°C, Z_L = Z_S = 50 Ω)

FREQ. (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.993	−3.7	1.184	174.9	0.0009	116.0	0.977	−1.7
200	0.992	−5.0	1.182	173.0	0.0015	106.6	0.977	−2.4
300	0.991	−6.8	1.179	170.6	0.0020	92.3	0.975	−3.4
400	0.987	−8.9	1.178	167.5	0.0025	88.4	0.975	−4.6
500	0.983	−11.2	1.180	164.5	0.0033	83.3	0.973	−5.7
600	0.979	−13.4	1.181	161.5	0.0043	78.3	0.972	−6.9
700	0.974	−15.6	1.181	158.6	0.0048	74.1	0.970	−8.1
800	0.966	−17.8	1.188	155.6	0.0055	78.5	0.969	−9.2
900	0.962	−20.1	1.189	152.8	0.0068	72.9	0.967	−10.3
1000	0.954	−22.3	1.195	149.9	0.0071	77.0	0.965	−11.4
1100	0.942	−24.5	1.194	147.1	0.0074	79.2	0.963	−12.5
1200	0.931	−26.8	1.202	144.0	0.0085	78.1	0.961	−13.6
1300	0.923	−28.9	1.202	140.9	0.0090	73.5	0.960	−14.7
1400	0.911	−31.1	1.208	137.7	0.0093	75.9	0.958	−15.8
1500	0.899	−33.3	1.210	134.7	0.0098	71.6	0.956	−17.0
1600	0.889	−35.6	1.217	131.4	0.0094	69.5	0.954	−18.2
1700	0.876	−37.7	1.218	128.2	0.0087	68.8	0.952	−19.3
1800	0.862	−39.9	1.218	124.8	0.0083	73.6	0.950	−20.5
1900	0.848	−42.1	1.217	121.9	0.0084	77.1	0.947	−21.7
2000	0.833	−44.3	1.220	118.2	0.0084	75.2	0.945	−22.8
2100	0.818	−46.5	1.218	115.1	0.0098	73.1	0.943	−23.9
2200	0.803	−48.7	1.216	111.4	0.0096	69.2	0.941	−25.0
2300	0.786	−50.9	1.219	108.4	0.0096	66.4	0.940	−26.2
2400	0.769	−52.9	1.218	104.5	0.0089	63.0	0.940	−27.2
2500	0.754	−54.4	1.214	101.6	0.0085	65.7	0.940	−28.1
2600	0.742	−55.6	1.220	99.0	0.0075	69.7	0.940	−28.8

(V_{DS} = 5 V, I_D = 5 mA, V_{G2S} = 1.5 V, Ta = 25°C, Z_L = Z_S = 50 Ω)

FREQ. (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.994	−4.1	1.887	174.4	0.0014	89.2	0.968	−1.9
200	0.992	−5.6	1.887	172.4	0.0019	74.4	0.967	−2.5
300	0.989	−7.5	1.883	169.9	0.0026	74.8	0.966	−3.4
400	0.985	−10.0	1.881	166.6	0.0029	74.8	0.965	−4.5
500	0.980	−12.4	1.879	163.3	0.0034	79.7	0.964	−5.7
600	0.972	−14.9	1.880	160.1	0.0043	85.2	0.963	−6.8
700	0.965	−17.3	1.873	157.0	0.0049	94.7	0.961	−7.9
800	0.955	−19.8	1.877	153.8	0.0055	92.0	0.959	−9.0
900	0.944	−22.2	1.871	150.7	0.0067	89.0	0.958	−10.2
1000	0.931	−24.5	1.874	147.5	0.0069	83.6	0.956	−11.3
1100	0.919	−27.0	1.867	144.4	0.0070	83.8	0.954	−12.4
1200	0.903	−29.4	1.872	141.0	0.0077	77.5	0.951	−13.5
1300	0.888	−31.7	1.867	137.8	0.0076	77.0	0.950	−14.6
1400	0.872	−34.1	1.869	134.4	0.0076	77.9	0.948	−15.7
1500	0.856	−36.4	1.865	131.2	0.0081	77.6	0.946	−16.8
1600	0.837	−38.6	1.863	127.7	0.0085	74.5	0.944	−18.0
1700	0.820	−40.9	1.854	124.3	0.0083	77.3	0.942	−19.1
1800	0.802	−43.3	1.846	120.6	0.0093	76.3	0.941	−20.2
1900	0.784	−45.5	1.837	117.4	0.0095	75.0	0.938	−21.3
2000	0.766	−47.6	1.830	113.6	0.0100	77.4	0.936	−22.4
2100	0.748	−49.7	1.818	110.6	0.0104	80.9	0.934	−23.5
2200	0.728	−51.8	1.808	106.9	0.0103	80.8	0.933	−24.6
2300	0.708	−53.5	1.793	104.0	0.0095	84.6	0.931	−25.6
2400	0.686	−55.4	1.783	100.3	0.0090	89.5	0.931	−26.6
2500	0.668	−57.1	1.771	97.5	0.0082	94.5	0.931	−27.5
2600	0.655	−58.4	1.776	95.0	0.0076	98.5	0.931	−28.1

S-Parameter (V_{DS} = 5 V, I_D = 10 mA, V_{G2S} = 1.5 V, Ta = 25°C, Z_L = Z_S = 50 Ω)

FREQ. (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.994	−4.1	2.507	173.8	0.0007	63.5	0.963	−1.7
200	0.990	−5.8	2.502	171.6	0.0011	70.8	0.963	−2.4
300	0.986	−8.1	2.495	168.8	0.0016	79.4	0.962	−3.3
400	0.980	−10.9	2.493	165.2	0.0024	84.0	0.960	−4.4
500	0.972	−13.8	2.483	161.6	0.0029	81.4	0.960	−5.6
600	0.964	−16.5	2.476	158.0	0.0038	88.5	0.958	−6.7
700	0.954	−19.1	2.463	154.6	0.0044	88.4	0.956	−7.9
800	0.939	−21.8	2.461	151.1	0.0048	79.9	0.954	−8.9
900	0.925	−24.3	2.445	147.7	0.0059	79.7	0.952	−10.0
1000	0.908	−26.8	2.437	144.2	0.0059	77.8	0.949	−11.1
1100	0.889	−29.4	2.420	140.8	0.0061	78.9	0.947	−12.2
1200	0.869	−31.9	2.421	137.2	0.0063	78.9	0.944	−13.2
1300	0.851	−34.3	2.404	133.7	0.0070	85.4	0.942	−14.3
1400	0.833	−36.8	2.395	130.1	0.0072	87.7	0.941	−15.4
1500	0.814	−39.3	2.383	126.7	0.0075	86.6	0.939	−16.5
1600	0.795	−41.5	2.368	123.1	0.0077	85.2	0.937	−17.6
1700	0.775	−43.7	2.342	119.6	0.0083	89.1	0.935	−18.7
1800	0.754	−45.8	2.317	115.8	0.0077	88.7	0.933	−19.8
1900	0.730	−47.8	2.292	112.5	0.0070	91.7	0.931	−20.9
2000	0.706	−49.7	2.271	108.6	0.0084	98.5	0.928	−21.9
2100	0.684	−51.6	2.243	105.3	0.0089	95.4	0.928	−22.9
2200	0.662	−53.3	2.215	101.5	0.0084	93.7	0.927	−24.0
2300	0.641	−55.0	2.191	98.4	0.0085	94.6	0.927	−25.0
2400	0.619	−56.5	2.168	94.5	0.0088	91.9	0.927	−26.1
2500	0.601	−57.5	2.144	91.5	0.0084	89.0	0.928	−27.0
2600	0.586	−58.4	2.144	88.9	0.0080	92.0	0.928	−27.7

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