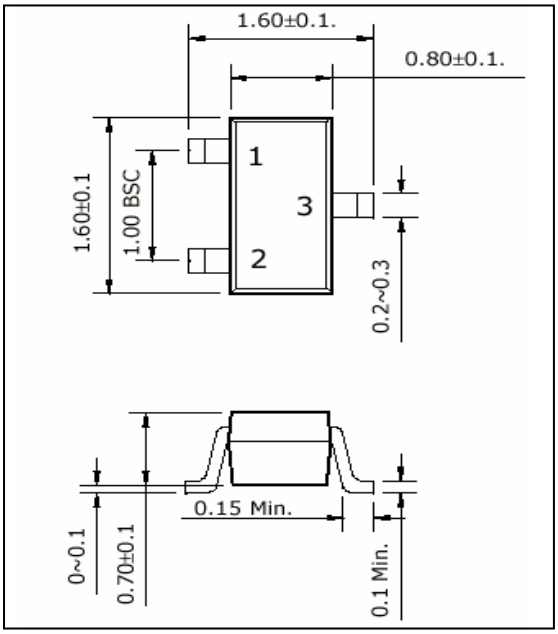
AUK Semiconductor

THN6201 Series

SiGe NPN Transistor

SOT−523 Unit in mm



☐ Applications

LNA and wide band amplifier up to GHz range

☐ Features

o Low Noise Figure

NF = 1.1 dB at f = 1 GHz, V_{CE} = 3 V, I_C = 5 mA

NF = 1.5 dB at f = 2 GHz, V_{CE} = 3 V, I_C = 5 mA

o High Power Gain

MAG = 18.5 dB at f = 1 GHz, V_{CE} = 3 V, I_C = 15 mA

MAG = 13 dB at f = 1 GHz, V_{CE} = 3 V, I_C = 15 mA

o High Transition Frequency

f_T = 12 GHz at V_{CE} = 3 V, I_C = 15 mA

Pin Configuration

Pin No	Symbol	Description
1	B	Base
2	E	Emitter
3	C	Collector

☐ h_{FE} Classification

Marking	AC1	AC2
h_{FE} Value	125 to 300	80 to 160

☐ Available Package

Unit : mm

Product	Package	Dimension
THN6201S	SOT-23	2.9 x 1.3, 1.2t
THN6201U	SOT-323	2.0 x 1.25, 1.0t
THN6201Z	SOT-343	2.0 x 1.25, 1.0t
THN6201E	SOT-523	1.6 x 0.8, 0.8t
THN6201KF	SOT-623F	1.4 x 0.8, 0.6t

☐ Absolute Maximum Ratings

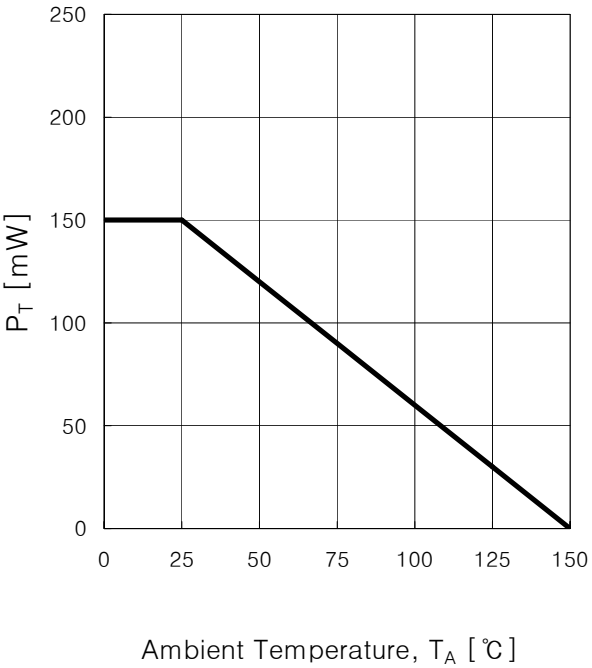
Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base Breakdown Voltage	20	V
V_{CEO}	Collector to Emitter Breakdown Voltage	12	V
V_{EBO}	Emitter to Base Breakdown Voltage	2.5	V
I_C	Collector Current (DC)	35	mA
P_T	Total Power Dissipation	150	mW
T_{STG}	Storage Temperature	-65 ~ 150	℃
T_J	Operating Junction Temperature	150	℃

Caution : ESD sensitive device

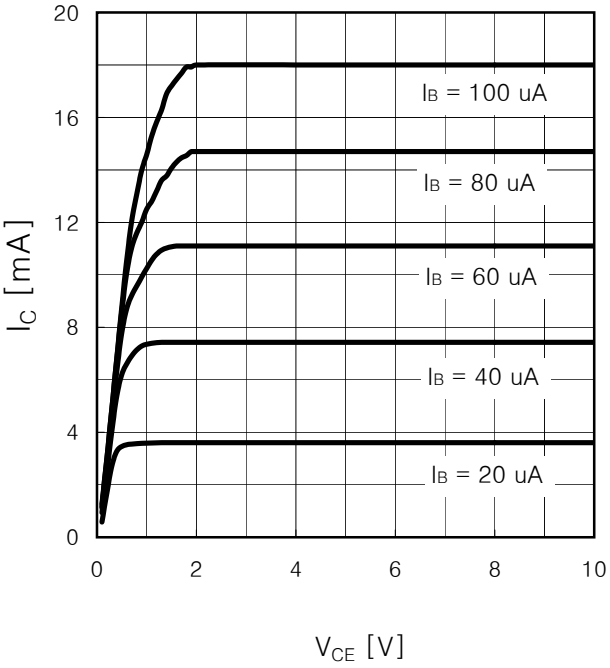
☐ Electrical Characteristics (T_A = 25 ℃)

Symbol	Parameter	Test Condition	Value			Unit
			Min.	Typ.	Max.	
I_{CBO}	Collector Cut-off Current	V_{CB} = 19 V, I_E = 0 mA	-	-	0.5	uA
I_{CEO}		V_{CE} = 12 V, I_B = 0 mA	-	-	5	uA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 1 V, I_C = 0 mA	-	-	0.5	uA
h_{FE}	DC Current Gain	V_{CE} = 3 V, I_C = 15 mA	80	200	300	
f_T	Transition Frequency	V_{CE} = 3 V, I_C = 15 mA	-	12	-	GHz
C_{CB}	Collector to Base Capacitance	V_{CB} = 10 V, f = 1 MHz	-	0.47	-	pF
$\|S_{21}\|^2$	Insertion Power Gain	V_{CE} = 3 V, I_C = 5 mA, f = 1 GHz	11.5	13.5	-	dB
		V_{CE} = 3 V, I_C = 15 mA, f = 1 GHz	13	15	-	
		V_{CE} = 3 V, I_C = 5 mA, f = 2 GHz	6	8	-	
		V_{CE} = 3 V, I_C = 15 mA, f = 2 GHz	7.5	9.5	-	
MAG	Maximum Available Gain	V_{CE} = 3 V, I_C = 5 mA, f = 1 GHz	15	17	-	dB
		V_{CE} = 3 V, I_C = 15 mA, f = 1 GHz	16.5	18.5	-	
		V_{CE} = 3 V, I_C = 5 mA, f = 2 GHz	10	12	-	
		V_{CE} = 3 V, I_C = 15 mA, f = 2 GHz	11	13	-	
NFmin	Minimum Noise Figure	V_{CE} = 3 V, I_C = 5 mA, f = 1 GHz	-	1.1	-	dB
		V_{CE} = 3 V, I_C = 5 mA, f = 2 GHz	-	1.5	-	
rn	Noise Resistance	V_{CE} = 3 V, I_C = 5 mA, f = 1 GHz	-	0.12	-	Ω
		V_{CE} = 3 V, I_C = 5 mA, f = 2 GHz	-	0.06	-	
G_A	Associated Gain	V_{CE} = 3 V, I_C = 5 mA, f = 1 GHz	12.5	14.5	-	dB
		V_{CE} = 3 V, I_C = 15 mA, f = 1 GHz	14	16	-	
		V_{CE} = 3 V, I_C = 5 mA, f = 2 GHz	8	10	-	
		V_{CE} = 3 V, I_C = 15 mA, f = 2 GHz	9	11	-	
$P_{1dB, IN}$	Input 1dB Compression Point	V_{CE} = 3 V, I_C = 15 mA, f = 1 GHz ($Z_S = Z_{Sopt}$, $Z_L = Z_{Lopt}$)	-	10	-	dBm

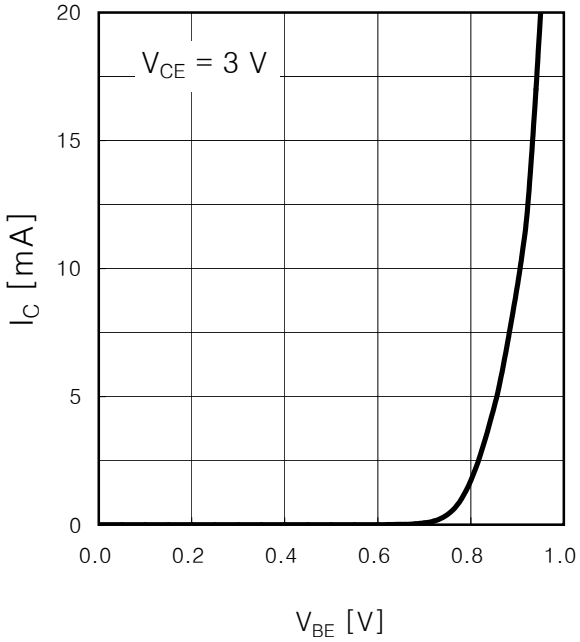
Total Power Dissipation, P_T vs. T_A



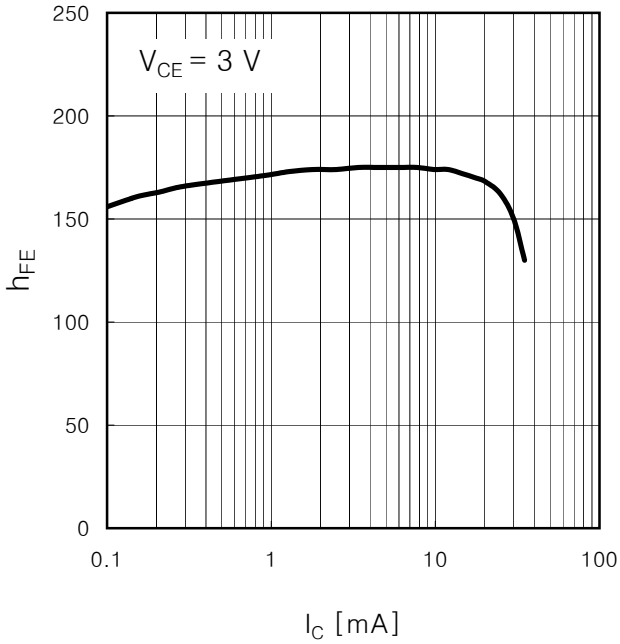
I_C vs. V_{CE}



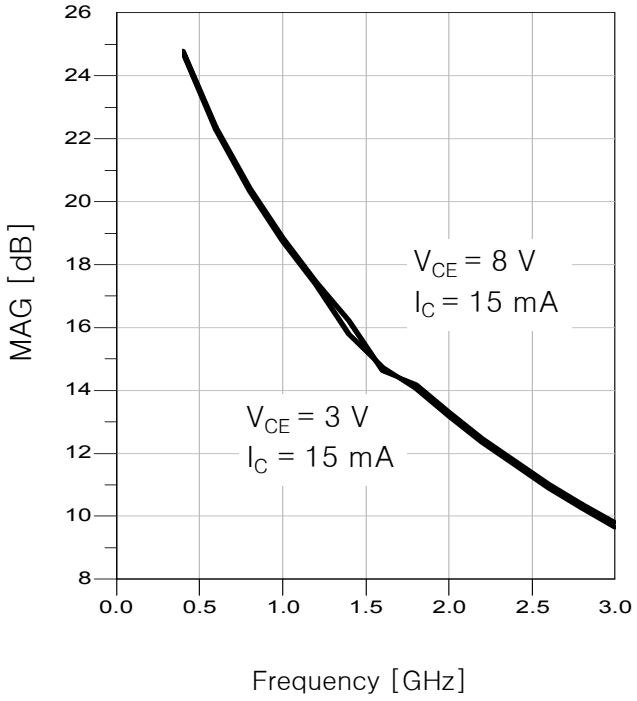
I_C vs. V_{BE}



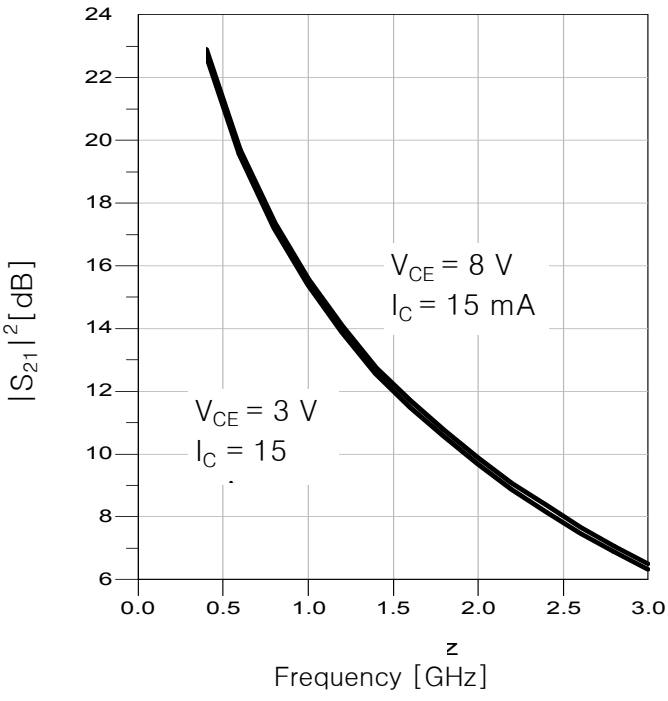
h_{FE} vs. I_C



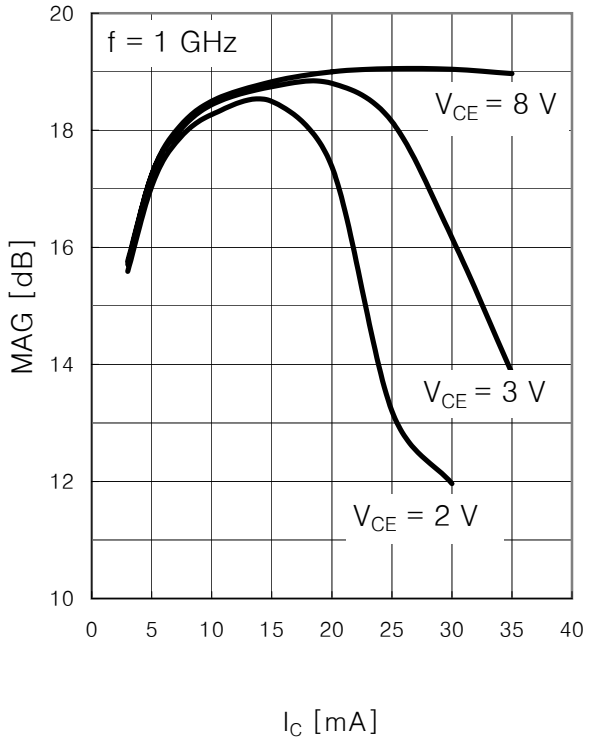
Maximum Available Gain, MAG vs. Frequency



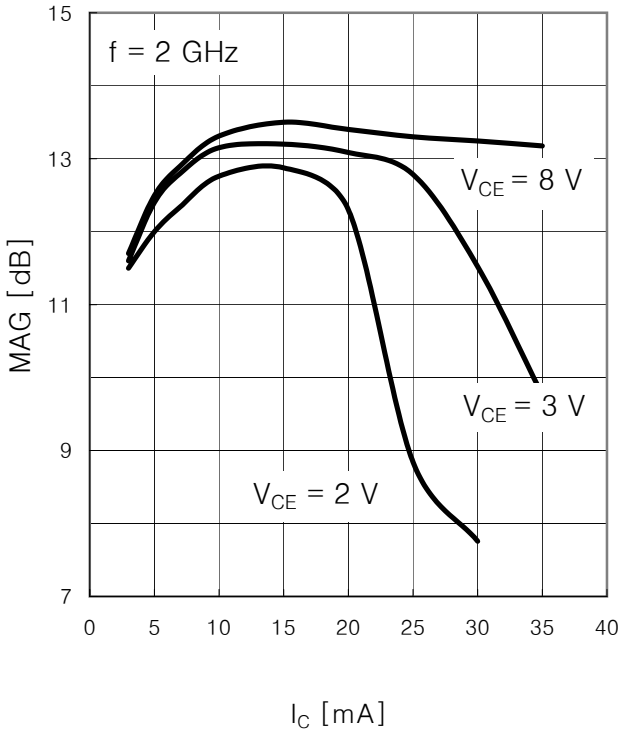
Insertion Power Gain, $|S_{21}|^2$ vs. Frequency



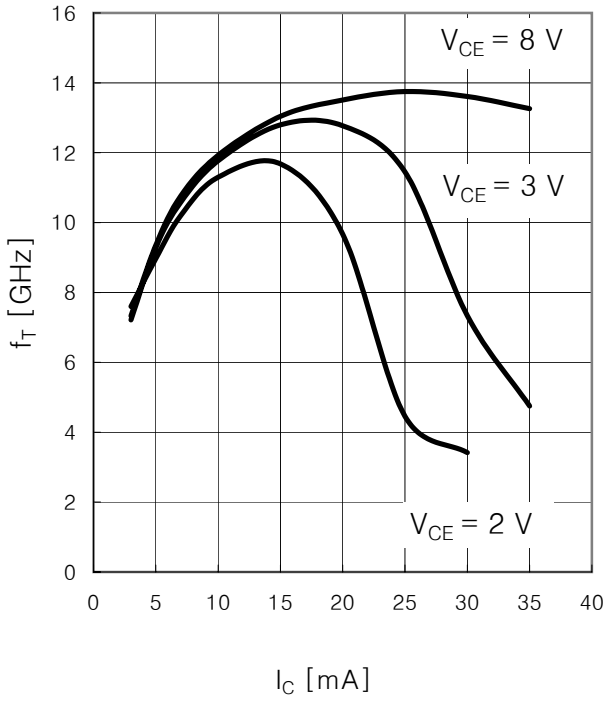
Maximum Available Gain, MAG vs. I_C



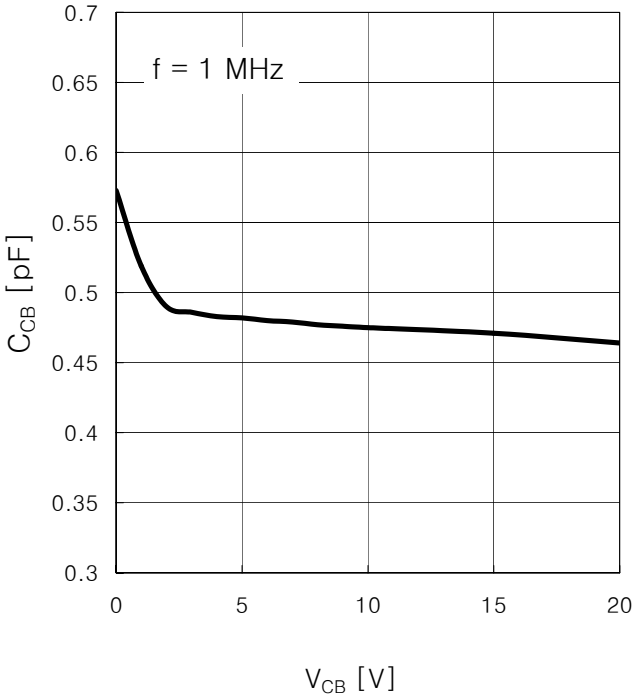
Maximum Available Gain, MAG vs. I_C



Transition Frequency, f_T vs. I_C

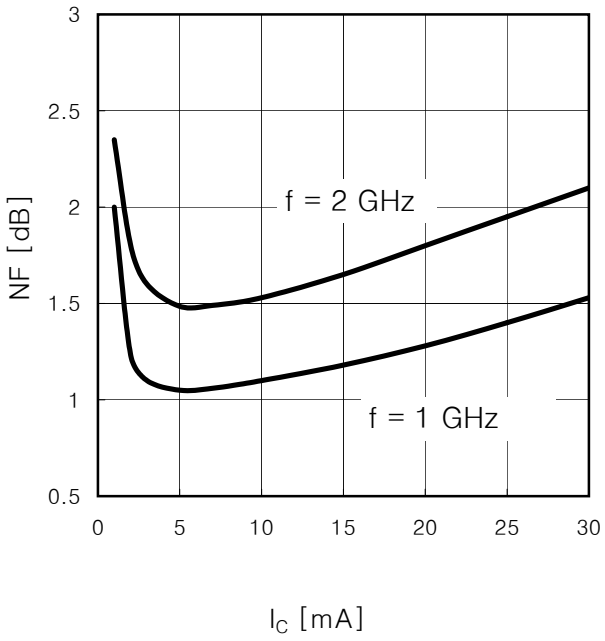


C_{CB} vs. V_{CB}



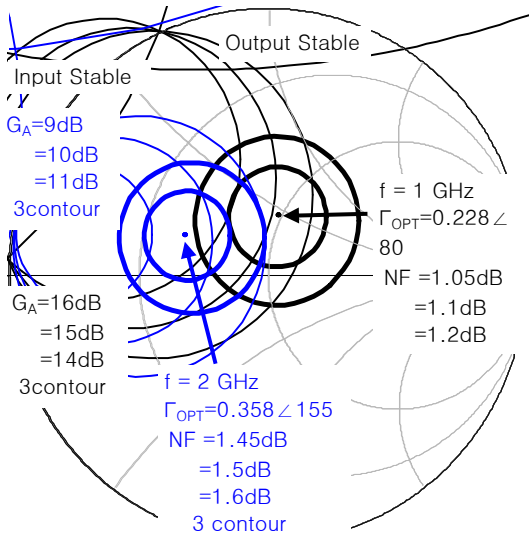
NF vs. Ic

V_{CE} = 3 V, I_C = parameter, Z_S = Z_{Sopt}

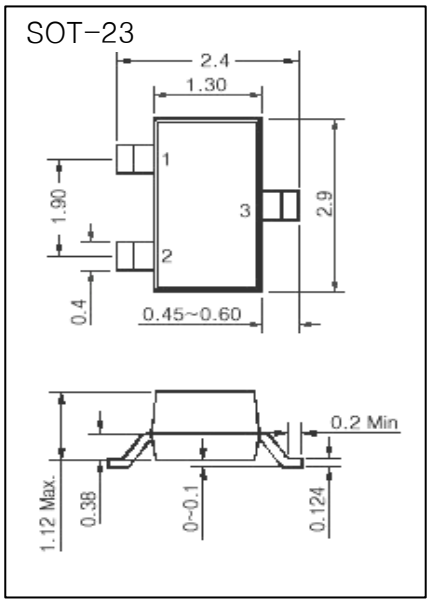


Noise Figure Contours & Constant Gain

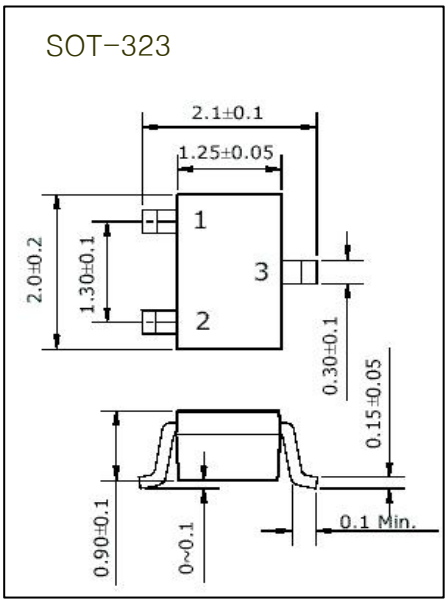
f = 1 GHz, 2 GHz, V_{CE} = 3 V, I_C = 5 mA



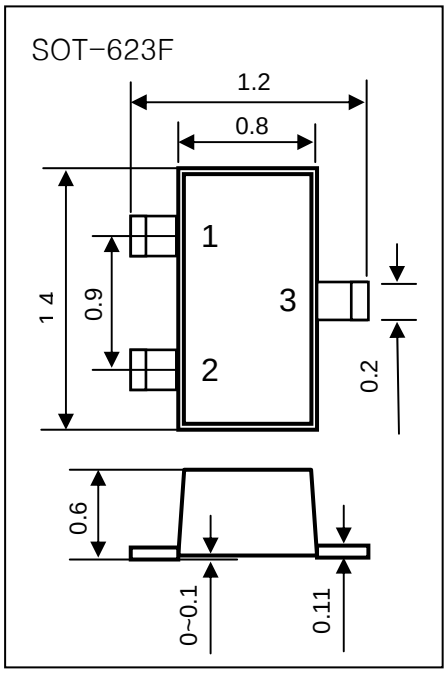
☐ **Dimensions of THN6201S in mm**



☐ **Dimensions of THN6201U in mm**



☐ **Dimensions of THN6201KF in mm**

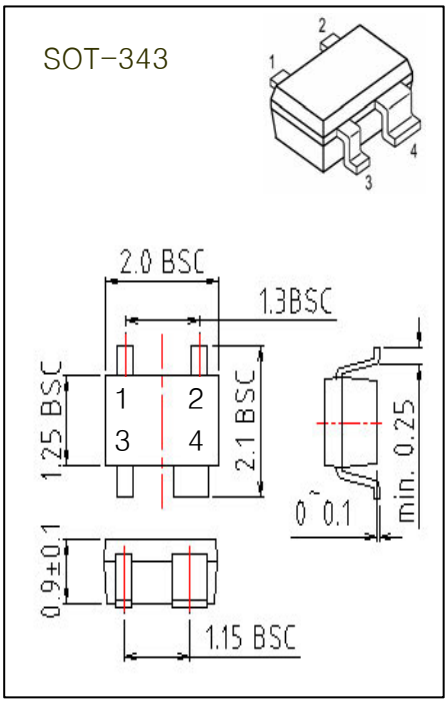


Pin Configuration

(SOT-23, SOT-323, SOT-623F)

Pin No	Symbol	Description
1	B	Base
2	E	Emitter
3	C	Collector

☐ **Dimensions of THN6201Z in mm**



Pin Configuration (SOT-343)

Pin No	Symbol	Description
1	B	Base
2, 3	E	Emitter
4	C	Collector

☐ Common Emitter S-Parameter Data

at V_{CE} = 3 V, I_C = 3 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.721 / -74.320	7.674 / 124.671	0.087 / 47.485	0.752 / -51.786
600.0MHz	0.628 / -97.230	6.029 / 109.003	0.102 / 38.269	0.631 / -66.435
800.0MHz	0.568 / -115.746	4.875 / 96.808	0.108 / 33.171	0.557 / -77.557
1.000GHz	0.545 / -130.082	4.092 / 86.799	0.110 / 30.846	0.510 / -86.256
1.200GHz	0.539 / -138.346	3.500 / 79.474	0.110 / 30.941	0.472 / -93.352
1.400GHz	0.525 / -146.486	3.045 / 72.718	0.110 / 32.551	0.457 / -99.788
1.600GHz	0.526 / -154.296	2.711 / 66.095	0.111 / 35.091	0.452 / -106.136
1.800GHz	0.522 / -161.767	2.444 / 60.229	0.114 / 38.568	0.452 / -111.995
2.000GHz	0.527 / -167.520	2.218 / 54.609	0.118 / 42.504	0.459 / -117.693
2.200GHz	0.531 / -173.286	2.026 / 49.199	0.125 / 46.362	0.467 / -123.334
2.400GHz	0.543 / -179.430	1.867 / 44.279	0.134 / 49.856	0.481 / -128.251
2.600GHz	0.558 / 174.973	1.711 / 39.095	0.146 / 52.609	0.495 / -133.439
2.800GHz	0.570 / 169.493	1.601 / 34.461	0.159 / 54.647	0.515 / -138.341
3.000GHz	0.573 / 163.887	1.489 / 30.239	0.174 / 55.940	0.538 / -142.585

at V_{CE} = 3 V, I_C = 5 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.625 / -93.286	10.071 / 116.261	0.073 / 44.821	0.630 / -62.456
600.0MHz	0.553 / -117.272	7.487 / 101.985	0.082 / 39.745	0.509 / -76.633
800.0MHz	0.509 / -134.123	5.888 / 91.468	0.087 / 38.411	0.444 / -86.884
1.000GHz	0.505 / -146.661	4.857 / 82.720	0.092 / 39.292	0.407 / -94.738
1.200GHz	0.499 / -153.092	4.124 / 76.582	0.097 / 41.876	0.375 / -101.236
1.400GHz	0.497 / -159.930	3.559 / 70.760	0.102 / 44.642	0.366 / -107.023
1.600GHz	0.499 / -167.006	3.157 / 64.962	0.109 / 47.550	0.365 / -112.802
1.800GHz	0.507 / -172.662	2.839 / 59.552	0.117 / 50.267	0.370 / -118.084
2.000GHz	0.507 / -178.125	2.571 / 54.446	0.127 / 52.776	0.378 / -123.218
2.200GHz	0.514 / 177.571	2.348 / 49.510	0.138 / 54.641	0.390 / -128.304
2.400GHz	0.526 / 171.840	2.161 / 45.010	0.151 / 56.118	0.405 / -132.709
2.600GHz	0.535 / 166.753	1.993 / 40.480	0.165 / 56.890	0.421 / -137.351
2.800GHz	0.550 / 163.116	1.863 / 35.896	0.179 / 57.245	0.443 / -141.715
3.000GHz	0.552 / 156.602	1.739 / 32.056	0.195 / 57.178	0.466 / -145.556

at V_{CE} = 3 V, I_C = 7 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.569 / -108.075	11.488 / 110.991	0.063 / 44.612	0.547 / -69.818
600.0MHz	0.517 / -130.055	8.280 / 98.024	0.071 / 42.644	0.435 / -83.525
800.0MHz	0.482 / -144.374	6.428 / 88.577	0.078 / 43.799	0.380 / -93.226
1.000GHz	0.484 / -156.364	5.262 / 80.549	0.085 / 46.066	0.351 / -100.567
1.200GHz	0.488 / -162.230	4.455 / 75.024	0.092 / 49.097	0.323 / -106.835
1.400GHz	0.491 / -167.969	3.837 / 69.682	0.101 / 51.822	0.319 / -112.246
1.600GHz	0.493 / -173.725	3.398 / 64.276	0.111 / 54.147	0.320 / -117.674
1.800GHz	0.504 / -179.510	3.049 / 59.308	0.122 / 55.955	0.327 / -122.588
2.000GHz	0.500 / 176.627	2.764 / 54.353	0.134 / 57.377	0.337 / -127.387
2.200GHz	0.504 / 171.962	2.524 / 49.755	0.147 / 58.181	0.349 / -132.075
2.400GHz	0.520 / 166.886	2.319 / 45.576	0.160 / 58.717	0.366 / -136.099
2.600GHz	0.536 / 162.388	2.144 / 41.131	0.175 / 58.625	0.383 / -140.363
2.800GHz	0.545 / 158.321	2.002 / 36.815	0.190 / 58.322	0.405 / -144.433
3.000GHz	0.552 / 152.684	1.865 / 32.886	0.206 / 57.736	0.429 / -147.846

at V_{CE} = 3 V, I_C = 10 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.524 / -121.457	12.757 / 105.688	0.054 / 46.598	0.461 / -77.818
600.0MHz	0.495 / -141.851	8.964 / 94.205	0.063 / 47.539	0.365 / -90.973
800.0MHz	0.472 / -155.686	6.884 / 85.816	0.071 / 50.499	0.322 / -100.100
1.000GHz	0.480 / -166.000	5.613 / 78.560	0.080 / 53.247	0.301 / -107.077
1.200GHz	0.488 / -169.733	4.740 / 73.582	0.091 / 56.122	0.279 / -113.099
1.400GHz	0.482 / -174.862	4.071 / 68.705	0.102 / 58.102	0.278 / -118.071
1.600GHz	0.488 / -179.912	3.601 / 63.601	0.114 / 59.519	0.283 / -123.118
1.800GHz	0.500 / 175.395	3.228 / 58.940	0.127 / 60.457	0.291 / -127.540
2.000GHz	0.498 / 171.602	2.924 / 54.340	0.141 / 60.920	0.302 / -131.982
2.200GHz	0.502 / 167.325	2.668 / 49.884	0.155 / 60.892	0.316 / -136.269
2.400GHz	0.517 / 162.746	2.456 / 46.002	0.169 / 60.720	0.333 / -139.936
2.600GHz	0.538 / 158.835	2.266 / 41.722	0.184 / 60.019	0.350 / -143.784
2.800GHz	0.540 / 154.850	2.124 / 37.592	0.200 / 59.121	0.373 / -147.459
3.000GHz	0.549 / 149.396	1.981 / 33.832	0.215 / 58.097	0.397 / -150.538

at V_{CE} = 3 V, I_C = 15 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.486 / -138.093	13.769 / 100.623	0.046 / 50.558	0.376 / -86.389
600.0MHz	0.470 / -154.631	9.488 / 90.663	0.056 / 54.346	0.301 / -98.826
800.0MHz	0.467 / -165.767	7.236 / 83.239	0.067 / 57.830	0.272 / -107.392
1.000GHz	0.476 / -174.312	5.874 / 76.615	0.078 / 60.428	0.259 / -113.727
1.200GHz	0.481 / -176.471	4.948 / 72.152	0.091 / 62.435	0.241 / -119.555
1.400GHz	0.488 / 179.054	4.242 / 67.630	0.104 / 63.615	0.244 / -124.019
1.600GHz	0.495 / 174.295	3.751 / 62.940	0.118 / 64.072	0.251 / -128.525
1.800GHz	0.502 / 170.069	3.367 / 58.582	0.132 / 64.148	0.261 / -132.507
2.000GHz	0.499 / 166.593	3.049 / 54.082	0.147 / 63.877	0.274 / -136.516
2.200GHz	0.513 / 163.014	2.772 / 49.827	0.162 / 63.290	0.289 / -140.383
2.400GHz	0.521 / 158.620	2.556 / 45.949	0.177 / 62.439	0.306 / -143.618
2.600GHz	0.536 / 155.149	2.361 / 41.855	0.193 / 61.275	0.325 / -147.071
2.800GHz	0.542 / 150.998	2.207 / 37.922	0.208 / 59.966	0.347 / -150.390
3.000GHz	0.554 / 146.390	2.068 / 34.237	0.224 / 58.629	0.372 / -153.158

at V_{CE} = 3 V, I_C = 20 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.488 / -149.130	14.010 / 97.351	0.041 / 55.052	0.322 / -90.931
600.0MHz	0.485 / -163.903	9.559 / 88.384	0.052 / 59.429	0.262 / -102.487
800.0MHz	0.475 / -171.808	7.262 / 81.429	0.065 / 62.478	0.242 / -110.319
1.000GHz	0.489 / -179.851	5.888 / 75.123	0.078 / 64.588	0.235 / -116.027
1.200GHz	0.496 / 178.013	4.958 / 70.939	0.091 / 66.030	0.221 / -121.625
1.400GHz	0.501 / 175.032	4.252 / 66.537	0.105 / 66.720	0.227 / -125.663
1.600GHz	0.507 / 170.692	3.758 / 61.963	0.120 / 66.772	0.236 / -129.884
1.800GHz	0.514 / 167.482	3.370 / 57.670	0.135 / 66.372	0.248 / -133.647
2.000GHz	0.515 / 164.092	3.047 / 53.233	0.150 / 65.774	0.262 / -137.524
2.200GHz	0.522 / 160.960	2.774 / 49.100	0.165 / 64.823	0.278 / -141.172
2.400GHz	0.534 / 156.563	2.555 / 45.285	0.181 / 63.734	0.297 / -144.300
2.600GHz	0.550 / 153.146	2.360 / 41.331	0.197 / 62.320	0.316 / -147.689
2.800GHz	0.553 / 149.623	2.205 / 37.318	0.213 / 60.862	0.339 / -150.918
3.000GHz	0.568 / 144.259	2.065 / 33.611	0.229 / 59.385	0.364 / -153.630

at V_{CE} = 3 V, I_C = 25 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.508 / -158.125	13.335 / 94.536	0.037 / 57.886	0.278 / -88.930
600.0MHz	0.514 / -169.730	9.039 / 86.063	0.049 / 62.885	0.232 / -98.604
800.0MHz	0.507 / -177.455	6.851 / 79.370	0.062 / 66.038	0.220 / -105.303
1.000GHz	0.521 / 176.746	5.545 / 73.188	0.076 / 67.976	0.219 / -110.447
1.200GHz	0.525 / 175.625	4.660 / 68.991	0.090 / 69.289	0.210 / -115.479
1.400GHz	0.535 / 172.058	3.996 / 64.522	0.104 / 69.586	0.221 / -119.617
1.600GHz	0.537 / 168.474	3.529 / 59.879	0.119 / 69.427	0.234 / -124.060
1.800GHz	0.552 / 164.287	3.159 / 55.473	0.135 / 68.956	0.249 / -128.133
2.000GHz	0.549 / 161.023	2.858 / 51.056	0.151 / 68.213	0.266 / -132.364
2.200GHz	0.555 / 158.077	2.605 / 46.843	0.167 / 67.077	0.284 / -136.502
2.400GHz	0.569 / 154.198	2.394 / 42.910	0.183 / 65.849	0.306 / -140.034
2.600GHz	0.585 / 150.432	2.209 / 38.755	0.200 / 64.369	0.327 / -143.838
2.800GHz	0.595 / 147.616	2.063 / 34.775	0.216 / 62.712	0.352 / -147.554
3.000GHz	0.602 / 142.185	1.923 / 31.125	0.233 / 60.985	0.379 / -150.698

at V_{CE} = 3 V, I_C = 30 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.587 / -167.730	10.210 / 90.099	0.033 / 59.221	0.243 / -69.032
600.0MHz	0.605 / -177.114	6.864 / 82.020	0.045 / 66.109	0.224 / -75.197
800.0MHz	0.602 / 176.565	5.176 / 75.199	0.057 / 69.981	0.228 / -81.817
1.000GHz	0.612 / 171.838	4.192 / 68.656	0.070 / 72.307	0.240 / -88.378
1.200GHz	0.619 / 170.425	3.519 / 64.273	0.085 / 74.099	0.244 / -94.285
1.400GHz	0.623 / 167.012	3.011 / 59.590	0.100 / 74.754	0.263 / -100.596
1.600GHz	0.626 / 163.739	2.654 / 54.479	0.116 / 74.800	0.283 / -107.196
1.800GHz	0.639 / 160.141	2.375 / 49.850	0.133 / 74.258	0.304 / -113.298
2.000GHz	0.642 / 156.796	2.141 / 45.181	0.151 / 73.436	0.327 / -119.343
2.200GHz	0.647 / 153.250	1.951 / 40.787	0.169 / 72.103	0.351 / -125.273
2.400GHz	0.661 / 149.571	1.781 / 36.610	0.187 / 70.581	0.376 / -130.427
2.600GHz	0.676 / 146.147	1.635 / 32.427	0.206 / 68.712	0.401 / -135.832
2.800GHz	0.677 / 142.369	1.530 / 28.369	0.225 / 66.639	0.429 / -140.866
3.000GHz	0.688 / 137.844	1.417 / 24.872	0.244 / 64.490	0.459 / -145.271

at V_{CE} = 6 V, I_C = 3 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.728 / -72.330	7.620 / 125.559	0.087 / 48.164	0.761 / -50.865
600.0MHz	0.641 / -96.126	6.018 / 109.869	0.102 / 38.596	0.642 / -65.495
800.0MHz	0.569 / -113.287	4.886 / 97.736	0.108 / 33.352	0.567 / -76.686
1.000GHz	0.547 / -127.195	4.106 / 87.492	0.110 / 30.914	0.519 / -85.461
1.200GHz	0.537 / -136.216	3.523 / 80.104	0.111 / 30.852	0.480 / -92.669
1.400GHz	0.525 / -145.214	3.060 / 73.407	0.111 / 32.179	0.464 / -99.122
1.600GHz	0.524 / -152.140	2.729 / 66.789	0.111 / 34.713	0.458 / -105.510
1.800GHz	0.526 / -160.237	2.459 / 60.837	0.113 / 38.102	0.458 / -111.382
2.000GHz	0.523 / -166.190	2.232 / 55.124	0.117 / 42.103	0.463 / -117.125
2.200GHz	0.528 / -171.763	2.038 / 49.715	0.124 / 46.044	0.471 / -122.775
2.400GHz	0.546 / -178.334	1.876 / 44.765	0.133 / 49.710	0.484 / -127.716
2.600GHz	0.557 / 175.843	1.732 / 39.772	0.144 / 52.529	0.498 / -132.966
2.800GHz	0.567 / 170.702	1.617 / 35.050	0.157 / 54.733	0.518 / -137.858
3.000GHz	0.572 / 164.949	1.502 / 30.753	0.172 / 56.084	0.540 / -142.142

at V_{CE} = 6 V, I_C = 5 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.640 / -90.066	10.009 / 117.481	0.073 / 45.464	0.646 / -61.052
600.0MHz	0.555 / -113.741	7.488 / 103.097	0.083 / 39.887	0.523 / -75.313
800.0MHz	0.510 / -131.215	5.904 / 92.360	0.088 / 38.179	0.456 / -85.638
1.000GHz	0.501 / -144.849	4.887 / 83.509	0.093 / 38.777	0.417 / -93.609
1.200GHz	0.495 / -151.045	4.146 / 77.315	0.097 / 41.236	0.384 / -100.145
1.400GHz	0.489 / -158.191	3.590 / 71.438	0.102 / 44.061	0.374 / -105.995
1.600GHz	0.493 / -165.147	3.183 / 65.488	0.108 / 46.876	0.372 / -111.830
1.800GHz	0.500 / -171.392	2.859 / 60.218	0.116 / 49.758	0.375 / -117.138
2.000GHz	0.505 / -176.527	2.589 / 55.064	0.126 / 52.302	0.384 / -122.330
2.200GHz	0.508 / 178.910	2.362 / 50.087	0.137 / 54.248	0.394 / -127.446
2.400GHz	0.518 / 173.201	2.180 / 45.562	0.149 / 55.885	0.409 / -131.906
2.600GHz	0.537 / 168.524	2.009 / 40.786	0.163 / 56.807	0.424 / -136.591
2.800GHz	0.543 / 164.078	1.878 / 36.395	0.177 / 57.210	0.446 / -141.019
3.000GHz	0.553 / 157.865	1.750 / 32.383	0.193 / 57.282	0.469 / -144.848

at V_{CE} = 6 V, I_C = 7 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.574 / -104.996	11.559 / 111.929	0.063 / 45.229	0.559 / -68.648
600.0MHz	0.514 / -128.483	8.363 / 98.836	0.072 / 42.720	0.444 / -82.411
800.0MHz	0.478 / -142.896	6.505 / 89.219	0.078 / 43.693	0.388 / -92.140
1.000GHz	0.480 / -154.779	5.334 / 81.191	0.085 / 45.882	0.356 / -99.605
1.200GHz	0.482 / -159.674	4.512 / 75.643	0.092 / 48.844	0.328 / -105.847
1.400GHz	0.484 / -166.558	3.887 / 70.206	0.101 / 51.526	0.323 / -111.311
1.600GHz	0.483 / -172.157	3.440 / 64.839	0.110 / 53.825	0.324 / -116.749
1.800GHz	0.496 / -177.751	3.092 / 59.803	0.121 / 55.706	0.329 / -121.683
2.000GHz	0.492 / 177.615	2.801 / 54.965	0.133 / 57.187	0.339 / -126.506
2.200GHz	0.503 / 172.989	2.554 / 50.227	0.145 / 58.134	0.351 / -131.239
2.400GHz	0.510 / 168.117	2.353 / 45.994	0.159 / 58.671	0.366 / -135.326
2.600GHz	0.523 / 163.406	2.175 / 41.569	0.174 / 58.632	0.383 / -139.632
2.800GHz	0.540 / 159.272	2.032 / 37.475	0.189 / 58.359	0.405 / -143.725
3.000GHz	0.546 / 153.989	1.897 / 33.427	0.204 / 57.782	0.428 / -147.210

at V_{CE} = 6 V, I_C = 10 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.513 / -118.905	12.873 / 106.793	0.054 / 46.837	0.475 / -76.307
600.0MHz	0.489 / -140.533	9.080 / 95.022	0.063 / 47.593	0.375 / -89.527
800.0MHz	0.464 / -153.674	6.986 / 86.510	0.071 / 50.024	0.330 / -98.810
1.000GHz	0.475 / -163.349	5.705 / 79.109	0.081 / 52.908	0.307 / -105.779
1.200GHz	0.475 / -167.724	4.805 / 74.177	0.091 / 55.754	0.283 / -111.817
1.400GHz	0.474 / -173.227	4.135 / 69.270	0.102 / 57.811	0.281 / -116.862
1.600GHz	0.482 / -178.572	3.660 / 64.165	0.113 / 59.186	0.285 / -121.925
1.800GHz	0.491 / 176.931	3.282 / 59.560	0.126 / 60.203	0.292 / -126.475
2.000GHz	0.487 / 172.432	2.971 / 54.835	0.139 / 60.734	0.303 / -130.928
2.200GHz	0.497 / 168.791	2.710 / 50.393	0.153 / 60.841	0.317 / -135.237
2.400GHz	0.509 / 163.557	2.497 / 46.463	0.168 / 60.636	0.333 / -138.974
2.600GHz	0.525 / 159.303	2.308 / 42.218	0.183 / 60.046	0.350 / -142.886
2.800GHz	0.539 / 155.606	2.160 / 38.083	0.198 / 59.182	0.372 / -146.614
3.000GHz	0.535 / 150.533	2.017 / 34.295	0.214 / 58.200	0.396 / -149.780

at V_{CE} = 6 V, I_C = 15 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.486 / -134.199	13.973 / 101.890	0.046 / 50.687	0.394 / -84.417
600.0MHz	0.474 / -152.394	9.666 / 91.659	0.056 / 53.873	0.313 / -96.962
800.0MHz	0.461 / -164.176	7.381 / 84.092	0.067 / 57.218	0.281 / -105.698
1.000GHz	0.464 / -172.265	6.005 / 77.427	0.078 / 59.902	0.265 / -112.173
1.200GHz	0.472 / -175.228	5.058 / 72.892	0.091 / 61.914	0.246 / -118.107
1.400GHz	0.477 / 179.989	4.339 / 68.324	0.104 / 63.081	0.248 / -122.669
1.600GHz	0.474 / 175.700	3.842 / 63.489	0.117 / 63.704	0.254 / -127.268
1.800GHz	0.487 / 171.521	3.447 / 59.176	0.131 / 63.815	0.262 / -131.379
2.000GHz	0.490 / 167.756	3.115 / 54.787	0.145 / 63.572	0.274 / -135.423
2.200GHz	0.494 / 164.880	2.844 / 50.467	0.160 / 62.949	0.288 / -139.321
2.400GHz	0.511 / 159.696	2.618 / 46.667	0.175 / 62.256	0.305 / -142.654
2.600GHz	0.520 / 156.546	2.416 / 42.568	0.191 / 61.106	0.323 / -146.133
2.800GHz	0.535 / 152.651	2.256 / 38.628	0.206 / 59.862	0.345 / -149.541
3.000GHz	0.541 / 147.257	2.114 / 34.942	0.222 / 58.530	0.369 / -152.361

at V_{CE} = 6 V, I_C = 20 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.462 / -143.835	14.503 / 99.077	0.042 / 54.800	0.346 / -89.247
600.0MHz	0.459 / -159.997	9.938 / 89.772	0.053 / 58.673	0.279 / -101.441
800.0MHz	0.461 / -169.533	7.561 / 82.661	0.065 / 61.867	0.253 / -109.712
1.000GHz	0.465 / -177.033	6.135 / 76.298	0.078 / 63.842	0.243 / -115.810
1.200GHz	0.476 / -179.200	5.169 / 72.077	0.091 / 65.288	0.226 / -121.612
1.400GHz	0.480 / 177.837	4.431 / 67.710	0.105 / 65.844	0.230 / -125.848
1.600GHz	0.484 / 173.120	3.922 / 63.036	0.119 / 65.952	0.238 / -130.130
1.800GHz	0.495 / 168.822	3.508 / 58.819	0.134 / 65.622	0.247 / -133.903
2.000GHz	0.490 / 165.232	3.180 / 54.506	0.149 / 65.077	0.260 / -137.719
2.200GHz	0.497 / 162.214	2.899 / 50.349	0.164 / 64.214	0.275 / -141.433
2.400GHz	0.514 / 157.728	2.669 / 46.594	0.180 / 63.179	0.292 / -144.491
2.600GHz	0.525 / 154.291	2.467 / 42.615	0.195 / 61.819	0.310 / -147.817
2.800GHz	0.538 / 150.438	2.307 / 38.756	0.211 / 60.414	0.333 / -151.031
3.000GHz	0.537 / 145.842	2.158 / 35.018	0.226 / 58.879	0.357 / -153.649

at V_{CE} = 6 V, I_C = 25 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.470 / -151.014	14.719 / 97.188	0.040 / 57.328	0.315 / -92.099
600.0MHz	0.463 / -164.822	10.027 / 88.407	0.052 / 61.941	0.257 / -103.788
800.0MHz	0.459 / -173.784	7.624 / 81.641	0.065 / 64.943	0.237 / -111.593
1.000GHz	0.475 / -179.838	6.178 / 75.569	0.078 / 66.250	0.229 / -117.264
1.200GHz	0.479 / 177.994	5.197 / 71.357	0.091 / 67.597	0.214 / -122.964
1.400GHz	0.480 / 174.852	4.456 / 67.173	0.106 / 67.744	0.219 / -126.913
1.600GHz	0.488 / 170.715	3.939 / 62.638	0.121 / 67.552	0.228 / -131.017
1.800GHz	0.497 / 167.243	3.527 / 58.443	0.136 / 66.987	0.239 / -134.672
2.000GHz	0.497 / 163.976	3.197 / 54.168	0.151 / 66.157	0.252 / -138.389
2.200GHz	0.500 / 160.409	2.916 / 50.051	0.166 / 65.023	0.267 / -141.978
2.400GHz	0.515 / 156.226	2.682 / 46.317	0.182 / 63.893	0.285 / -144.962
2.600GHz	0.535 / 153.155	2.472 / 42.484	0.198 / 62.428	0.304 / -148.150
2.800GHz	0.540 / 149.675	2.317 / 38.387	0.213 / 60.877	0.327 / -151.315
3.000GHz	0.545 / 144.334	2.166 / 34.909	0.229 / 59.295	0.351 / -153.935

at V_{CE} = 6 V, I_C = 30 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.464 / -155.303	14.684 / 95.756	0.038 / 60.145	0.292 / -92.780
600.0MHz	0.476 / -168.260	9.977 / 87.372	0.050 / 64.604	0.240 / -103.734
800.0MHz	0.470 / -176.630	7.565 / 80.768	0.063 / 66.832	0.224 / -111.126
1.000GHz	0.485 / 178.037	6.131 / 74.757	0.077 / 68.223	0.219 / -116.576
1.200GHz	0.492 / 176.337	5.158 / 70.703	0.092 / 69.130	0.206 / -121.910
1.400GHz	0.491 / 173.113	4.425 / 66.487	0.106 / 69.221	0.213 / -125.734
1.600GHz	0.497 / 169.393	3.911 / 61.990	0.121 / 68.865	0.223 / -129.844
1.800GHz	0.509 / 165.968	3.499 / 57.851	0.136 / 68.108	0.235 / -133.436
2.000GHz	0.510 / 162.931	3.164 / 53.579	0.152 / 67.153	0.249 / -137.194
2.200GHz	0.512 / 159.473	2.887 / 49.438	0.168 / 65.987	0.265 / -140.826
2.400GHz	0.526 / 155.396	2.656 / 45.697	0.183 / 64.701	0.284 / -143.864
2.600GHz	0.544 / 152.115	2.456 / 41.717	0.199 / 63.115	0.303 / -147.177
2.800GHz	0.550 / 148.633	2.296 / 37.676	0.215 / 61.538	0.326 / -150.391
3.000GHz	0.563 / 143.366	2.150 / 34.192	0.231 / 59.917	0.351 / -153.082

at V_{CE} = 6 V, I_C = 35 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.478 / -159.612	14.262 / 94.414	0.036 / 62.121	0.270 / -90.071
600.0MHz	0.486 / -171.158	9.656 / 86.181	0.049 / 66.330	0.225 / -99.713
800.0MHz	0.484 / -178.409	7.312 / 79.673	0.062 / 68.788	0.213 / -106.346
1.000GHz	0.497 / 175.945	5.925 / 73.670	0.076 / 69.932	0.212 / -111.440
1.200GHz	0.502 / 175.031	4.982 / 69.551	0.091 / 70.759	0.202 / -116.501
1.400GHz	0.510 / 171.624	4.266 / 65.318	0.105 / 70.927	0.211 / -120.370
1.600GHz	0.521 / 167.740	3.772 / 60.785	0.120 / 70.419	0.223 / -124.704
1.800GHz	0.527 / 164.304	3.380 / 56.502	0.136 / 69.645	0.237 / -128.634
2.000GHz	0.528 / 161.173	3.053 / 52.203	0.152 / 68.631	0.253 / -132.747
2.200GHz	0.533 / 158.194	2.782 / 48.035	0.168 / 67.335	0.271 / -136.723
2.400GHz	0.549 / 154.524	2.559 / 44.230	0.184 / 66.040	0.291 / -140.135
2.600GHz	0.564 / 150.963	2.360 / 40.172	0.200 / 64.391	0.312 / -143.826
2.800GHz	0.570 / 147.180	2.210 / 36.188	0.217 / 62.777	0.336 / -147.423
3.000GHz	0.580 / 142.796	2.063 / 32.594	0.233 / 60.949	0.363 / -150.485

at V_{CE} = 6 V, I_C = 40 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.520 / -165.397	12.944 / 92.447	0.034 / 63.473	0.252 / -79.399
600.0MHz	0.530 / -175.209	8.731 / 84.432	0.046 / 68.273	0.218 / -86.409
800.0MHz	0.531 / 178.063	6.604 / 77.893	0.059 / 70.955	0.214 / -92.459
1.000GHz	0.545 / 174.075	5.343 / 71.757	0.073 / 72.285	0.218 / -97.873
1.200GHz	0.546 / 172.543	4.492 / 67.589	0.088 / 73.231	0.215 / -102.899
1.400GHz	0.550 / 169.873	3.850 / 63.202	0.103 / 73.527	0.229 / -107.996
1.600GHz	0.553 / 165.742	3.401 / 58.475	0.118 / 73.135	0.245 / -113.456
1.800GHz	0.566 / 162.383	3.043 / 54.098	0.135 / 72.326	0.262 / -118.571
2.000GHz	0.568 / 159.409	2.749 / 49.676	0.151 / 71.370	0.281 / -123.742
2.200GHz	0.574 / 155.980	2.503 / 45.246	0.168 / 70.045	0.301 / -128.766
2.400GHz	0.589 / 152.210	2.298 / 41.464	0.185 / 68.600	0.324 / -133.179
2.600GHz	0.603 / 148.755	2.119 / 37.195	0.203 / 66.806	0.347 / -137.813
2.800GHz	0.614 / 146.096	1.980 / 33.052	0.220 / 64.976	0.373 / -142.240
3.000GHz	0.619 / 140.593	1.844 / 29.495	0.237 / 63.043	0.401 / -146.029

at V_{CE} = 8 V, I_C = 3 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.727 / -71.817	7.689 / 125.501	0.086 / 48.112	0.760 / -50.980
600.0MHz	0.631 / -96.413	6.077 / 109.811	0.101 / 38.832	0.640 / -65.687
800.0MHz	0.575 / -113.006	4.933 / 97.671	0.107 / 33.514	0.565 / -76.844
1.000GHz	0.543 / -128.037	4.145 / 87.495	0.110 / 31.124	0.517 / -85.598
1.200GHz	0.535 / -136.645	3.556 / 80.202	0.110 / 31.106	0.478 / -92.758
1.400GHz	0.521 / -145.099	3.090 / 73.580	0.110 / 32.465	0.462 / -99.221
1.600GHz	0.520 / -152.961	2.757 / 66.806	0.111 / 34.961	0.455 / -105.613
1.800GHz	0.523 / -160.308	2.482 / 60.920	0.113 / 38.438	0.455 / -111.460
2.000GHz	0.523 / -165.968	2.252 / 55.211	0.118 / 42.349	0.461 / -117.139
2.200GHz	0.526 / -171.917	2.060 / 49.865	0.124 / 46.242	0.468 / -122.807
2.400GHz	0.539 / -178.476	1.894 / 44.958	0.133 / 49.895	0.481 / -127.705
2.600GHz	0.555 / 176.280	1.752 / 39.970	0.144 / 52.628	0.495 / -132.952
2.800GHz	0.562 / 170.941	1.630 / 35.244	0.158 / 54.714	0.515 / -137.831
3.000GHz	0.567 / 164.883	1.513 / 31.124	0.173 / 56.057	0.537 / -142.115

at V_{CE} = 8 V, I_C = 5 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.632 / -89.826	10.025 / 117.646	0.073 / 45.530	0.648 / -60.847
600.0MHz	0.555 / -113.661	7.508 / 103.225	0.083 / 39.912	0.525 / -75.111
800.0MHz	0.508 / -130.321	5.917 / 92.571	0.088 / 38.271	0.458 / -85.416
1.000GHz	0.504 / -143.846	4.899 / 83.714	0.093 / 38.916	0.418 / -93.414
1.200GHz	0.500 / -150.717	4.159 / 77.454	0.097 / 41.153	0.385 / -99.937
1.400GHz	0.495 / -157.906	3.595 / 71.502	0.102 / 43.915	0.375 / -105.829
1.600GHz	0.492 / -164.546	3.194 / 65.676	0.108 / 46.821	0.372 / -111.661
1.800GHz	0.498 / -171.003	2.872 / 60.372	0.116 / 49.712	0.376 / -116.957
2.000GHz	0.500 / -176.419	2.595 / 55.094	0.126 / 52.206	0.383 / -122.183
2.200GHz	0.506 / 178.970	2.375 / 50.278	0.137 / 54.231	0.394 / -127.316
2.400GHz	0.521 / 173.299	2.185 / 45.570	0.149 / 55.860	0.408 / -131.729
2.600GHz	0.530 / 168.895	2.019 / 41.047	0.162 / 56.683	0.424 / -136.442
2.800GHz	0.543 / 165.090	1.881 / 36.561	0.177 / 57.185	0.445 / -140.875
3.000GHz	0.555 / 157.877	1.752 / 32.507	0.192 / 57.257	0.469 / -144.681

at V_{CE} = 8 V, I_C = 7 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.563 / -104.402	11.526 / 112.282	0.063 / 45.381	0.564 / -68.108
600.0MHz	0.516 / -127.090	8.357 / 99.073	0.072 / 42.672	0.449 / -81.897
800.0MHz	0.487 / -142.294	6.503 / 89.436	0.078 / 43.496	0.391 / -91.683
1.000GHz	0.475 / -153.788	5.338 / 81.341	0.085 / 45.618	0.359 / -99.159
1.200GHz	0.481 / -159.380	4.519 / 75.711	0.092 / 48.603	0.331 / -105.424
1.400GHz	0.485 / -165.686	3.892 / 70.354	0.101 / 51.245	0.324 / -110.878
1.600GHz	0.481 / -171.715	3.448 / 64.912	0.110 / 53.604	0.325 / -116.350
1.800GHz	0.494 / -177.173	3.098 / 59.932	0.121 / 55.489	0.331 / -121.274
2.000GHz	0.489 / 178.365	2.806 / 55.029	0.133 / 57.102	0.340 / -126.152
2.200GHz	0.497 / 173.518	2.556 / 50.334	0.145 / 57.979	0.352 / -130.896
2.400GHz	0.512 / 168.094	2.357 / 46.105	0.159 / 58.638	0.367 / -135.003
2.600GHz	0.527 / 163.976	2.176 / 41.745	0.173 / 58.656	0.384 / -139.341
2.800GHz	0.535 / 159.881	2.038 / 37.407	0.188 / 58.310	0.405 / -143.481
3.000GHz	0.543 / 154.496	1.896 / 33.575	0.203 / 57.788	0.429 / -146.939

at V_{CE} = 8 V, I_C = 10 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.514 / -116.917	12.832 / 107.312	0.055 / 46.603	0.482 / -75.540
600.0MHz	0.480 / -139.696	9.071 / 95.387	0.063 / 47.279	0.381 / -88.760
800.0MHz	0.467 / -152.545	6.984 / 86.727	0.072 / 49.746	0.335 / -97.999
1.000GHz	0.465 / -163.532	5.702 / 79.420	0.081 / 52.550	0.311 / -105.072
1.200GHz	0.469 / -168.001	4.813 / 74.234	0.090 / 55.352	0.286 / -111.037
1.400GHz	0.467 / -172.523	4.136 / 69.425	0.101 / 57.439	0.284 / -116.142
1.600GHz	0.479 / -177.755	3.663 / 64.336	0.113 / 58.924	0.287 / -121.233
1.800GHz	0.486 / 177.288	3.285 / 59.598	0.126 / 59.975	0.294 / -125.817
2.000GHz	0.492 / 172.724	2.972 / 54.949	0.139 / 60.563	0.305 / -130.297
2.200GHz	0.492 / 168.638	2.713 / 50.445	0.153 / 60.703	0.318 / -134.718
2.400GHz	0.509 / 163.954	2.494 / 46.498	0.167 / 60.573	0.334 / -138.431
2.600GHz	0.522 / 160.191	2.307 / 42.306	0.182 / 59.957	0.351 / -142.408
2.800GHz	0.536 / 155.780	2.157 / 38.040	0.197 / 59.165	0.373 / -146.144
3.000GHz	0.540 / 150.787	2.015 / 34.224	0.213 / 58.243	0.397 / -149.330

at V_{CE} = 8 V, I_C = 15 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.481 / -133.200	13.915 / 102.490	0.047 / 50.447	0.403 / -83.096
600.0MHz	0.466 / -151.471	9.644 / 92.095	0.057 / 53.556	0.320 / -95.700
800.0MHz	0.454 / -163.119	7.369 / 84.363	0.067 / 56.688	0.286 / -104.412
1.000GHz	0.466 / -171.925	5.988 / 77.559	0.078 / 59.243	0.270 / -110.947
1.200GHz	0.467 / -173.732	5.050 / 73.062	0.091 / 61.465	0.249 / -116.894
1.400GHz	0.474 / -179.281	4.337 / 68.484	0.103 / 62.562	0.251 / -121.486
1.600GHz	0.476 / 176.446	3.834 / 63.676	0.116 / 63.310	0.256 / -126.107
1.800GHz	0.487 / 172.410	3.437 / 59.276	0.131 / 63.412	0.265 / -130.297
2.000GHz	0.487 / 168.558	3.111 / 54.770	0.145 / 63.347	0.277 / -134.426
2.200GHz	0.493 / 165.392	2.832 / 50.506	0.160 / 62.809	0.291 / -138.439
2.400GHz	0.507 / 160.476	2.609 / 46.648	0.174 / 62.149	0.307 / -141.801
2.600GHz	0.519 / 156.752	2.416 / 42.547	0.190 / 61.081	0.325 / -145.377
2.800GHz	0.531 / 153.120	2.257 / 38.466	0.205 / 59.868	0.347 / -148.811
3.000GHz	0.539 / 147.674	2.112 / 35.029	0.221 / 58.555	0.371 / -151.682

at V_{CE} = 8 V, I_C = 20 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.468 / -142.987	14.440 / 99.650	0.043 / 54.002	0.356 / -87.727
600.0MHz	0.467 / -158.393	9.918 / 90.107	0.054 / 57.979	0.286 / -99.872
800.0MHz	0.459 / -168.026	7.552 / 82.931	0.066 / 61.151	0.259 / -108.148
1.000GHz	0.464 / -176.047	6.123 / 76.526	0.078 / 63.229	0.247 / -114.286
1.200GHz	0.472 / -178.837	5.156 / 72.146	0.091 / 64.841	0.230 / -120.079
1.400GHz	0.474 / 177.813	4.426 / 67.814	0.105 / 65.579	0.233 / -124.365
1.600GHz	0.477 / 173.334	3.915 / 63.169	0.119 / 65.741	0.240 / -128.766
1.800GHz	0.489 / 169.551	3.510 / 58.935	0.133 / 65.413	0.250 / -132.636
2.000GHz	0.495 / 165.741	3.172 / 54.600	0.148 / 64.924	0.262 / -136.527
2.200GHz	0.494 / 161.948	2.894 / 50.431	0.163 / 64.093	0.277 / -140.323
2.400GHz	0.513 / 158.234	2.663 / 46.646	0.179 / 63.116	0.294 / -143.476
2.600GHz	0.524 / 153.969	2.466 / 42.591	0.194 / 61.792	0.312 / -146.870
2.800GHz	0.531 / 151.067	2.307 / 38.574	0.210 / 60.402	0.334 / -150.138
3.000GHz	0.539 / 146.073	2.151 / 35.007	0.225 / 58.946	0.358 / -152.872

at V_{CE} = 8 V, I_C = 25 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.456 / -149.263	14.673 / 97.959	0.040 / 57.067	0.327 / -90.230
600.0MHz	0.462 / -163.449	10.032 / 88.935	0.052 / 61.178	0.265 / -101.978
800.0MHz	0.461 / -172.072	7.620 / 81.988	0.064 / 63.950	0.242 / -109.854
1.000GHz	0.469 / -179.275	6.182 / 75.858	0.077 / 65.797	0.234 / -115.723
1.200GHz	0.474 / 179.103	5.194 / 71.611	0.091 / 66.929	0.218 / -121.321
1.400GHz	0.478 / 175.346	4.463 / 67.310	0.106 / 67.315	0.223 / -125.408
1.600GHz	0.488 / 171.212	3.944 / 62.811	0.120 / 67.180	0.231 / -129.652
1.800GHz	0.496 / 167.609	3.531 / 58.589	0.135 / 66.702	0.241 / -133.401
2.000GHz	0.495 / 164.342	3.198 / 54.342	0.150 / 66.029	0.255 / -137.180
2.200GHz	0.500 / 161.081	2.914 / 50.155	0.166 / 64.936	0.269 / -140.873
2.400GHz	0.515 / 157.173	2.682 / 46.374	0.181 / 63.755	0.287 / -143.963
2.600GHz	0.528 / 153.502	2.480 / 42.457	0.197 / 62.353	0.305 / -147.253
2.800GHz	0.538 / 150.148	2.319 / 38.416	0.212 / 60.850	0.328 / -150.450
3.000GHz	0.545 / 144.892	2.172 / 34.888	0.228 / 59.210	0.352 / -153.149

at V_{CE} = 8 V, I_C = 30 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.459 / -152.497	14.735 / 96.609	0.038 / 59.697	0.305 / -91.375
600.0MHz	0.466 / -166.774	10.025 / 87.965	0.051 / 63.420	0.249 / -102.514
800.0MHz	0.465 / -175.307	7.615 / 81.235	0.064 / 66.147	0.230 / -110.057
1.000GHz	0.476 / 179.463	6.172 / 75.172	0.077 / 67.740	0.224 / -115.494
1.200GHz	0.479 / 176.580	5.188 / 71.065	0.091 / 68.612	0.210 / -120.993
1.400GHz	0.486 / 174.248	4.450 / 66.810	0.106 / 68.673	0.216 / -124.974
1.600GHz	0.489 / 169.763	3.940 / 62.280	0.121 / 68.362	0.225 / -129.116
1.800GHz	0.501 / 166.568	3.522 / 58.078	0.136 / 67.726	0.236 / -132.788
2.000GHz	0.503 / 163.538	3.190 / 53.799	0.151 / 66.868	0.250 / -136.582
2.200GHz	0.504 / 160.013	2.910 / 49.657	0.167 / 65.698	0.266 / -140.275
2.400GHz	0.517 / 156.185	2.676 / 45.908	0.182 / 64.392	0.284 / -143.362
2.600GHz	0.533 / 152.200	2.471 / 41.995	0.199 / 62.944	0.303 / -146.706
2.800GHz	0.540 / 148.474	2.313 / 37.934	0.214 / 61.319	0.326 / -149.951
3.000GHz	0.551 / 143.931	2.166 / 34.452	0.230 / 59.707	0.351 / -152.679

at V_{CE} = 8 V, I_C = 35 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.466 / -157.256	14.585 / 95.570	0.037 / 60.574	0.286 / -90.617
600.0MHz	0.474 / -168.965	9.904 / 87.069	0.050 / 65.239	0.236 / -100.903
800.0MHz	0.471 / -177.446	7.511 / 80.485	0.063 / 67.833	0.220 / -107.947
1.000GHz	0.487 / 177.114	6.083 / 74.452	0.077 / 69.127	0.216 / -113.233
1.200GHz	0.486 / 175.523	5.112 / 70.404	0.091 / 69.923	0.205 / -118.431
1.400GHz	0.491 / 172.723	4.387 / 66.130	0.106 / 70.010	0.212 / -122.348
1.600GHz	0.504 / 168.632	3.875 / 61.564	0.120 / 69.496	0.223 / -126.580
1.800GHz	0.511 / 165.265	3.477 / 57.381	0.136 / 68.785	0.235 / -130.358
2.000GHz	0.511 / 161.833	3.142 / 53.097	0.151 / 67.813	0.250 / -134.276
2.200GHz	0.517 / 158.855	2.867 / 48.962	0.167 / 66.625	0.266 / -138.125
2.400GHz	0.533 / 155.215	2.635 / 45.171	0.183 / 65.253	0.285 / -141.421
2.600GHz	0.544 / 151.827	2.433 / 41.201	0.199 / 63.750	0.305 / -144.938
2.800GHz	0.552 / 148.246	2.277 / 37.009	0.216 / 62.057	0.329 / -148.336
3.000GHz	0.558 / 143.347	2.124 / 33.533	0.231 / 60.337	0.354 / -151.232

at V_{CE} = 8 V, I_C = 40 mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.481 / -160.951	14.018 / 94.291	0.035 / 62.228	0.268 / -85.821
600.0MHz	0.488 / -172.534	9.484 / 86.026	0.048 / 66.975	0.224 / -94.552
800.0MHz	0.493 / -178.933	7.185 / 79.402	0.061 / 69.392	0.213 / -100.913
1.000GHz	0.507 / 175.090	5.813 / 73.336	0.075 / 70.403	0.213 / -105.996
1.200GHz	0.511 / 174.555	4.890 / 69.215	0.089 / 71.513	0.205 / -110.893
1.400GHz	0.517 / 171.449	4.195 / 64.860	0.104 / 71.660	0.215 / -115.257
1.600GHz	0.523 / 167.942	3.704 / 60.268	0.119 / 71.183	0.229 / -119.995
1.800GHz	0.533 / 164.261	3.316 / 56.028	0.135 / 70.356	0.243 / -124.337
2.000GHz	0.533 / 160.914	2.999 / 51.656	0.151 / 69.434	0.260 / -128.777
2.200GHz	0.535 / 157.580	2.733 / 47.494	0.168 / 68.109	0.278 / -133.183
2.400GHz	0.556 / 154.221	2.507 / 43.577	0.184 / 66.752	0.299 / -136.981
2.600GHz	0.567 / 149.668	2.317 / 39.550	0.201 / 65.097	0.320 / -141.042
2.800GHz	0.572 / 147.078	2.172 / 35.465	0.217 / 63.313	0.345 / -144.963
3.000GHz	0.584 / 142.445	2.018 / 31.871	0.234 / 61.599	0.372 / -148.292