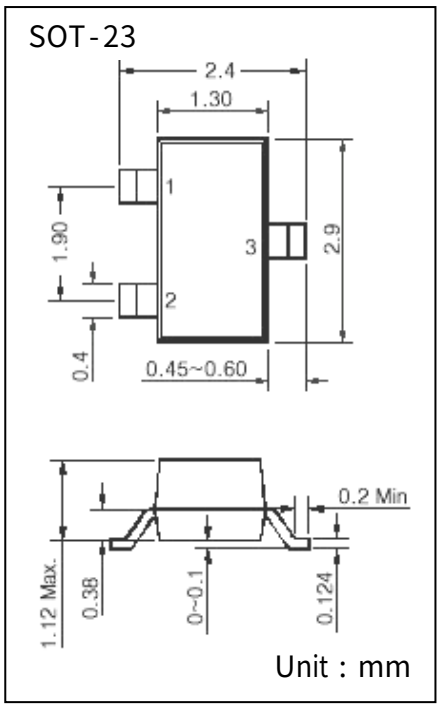
NPN Planer RF TRANSISTOR



☐ DESCRIPTION

The THN6501S is a low Noise figure and good associated gain performance at UHF, VHF and Microwave frequencies

It is suitable for a high density surface mount since transistor has been SOT23 package

☐ FEATURES

o Low Noise Figure

N.F = 1.0dB TYP. @ f=1GHz, V_{CE}=3V, Ic=7mA

o High Gain

MAG = 14dB TYP. @ f=1GHz, V_{CE}=3V, Ic=7mA

o High Transition Frequency

f_T = 5GHz TYP. @ f=1GHz, V_{CE}=3V, Ic=7mA

PIN CONFIGURATION

PIN NO	SYMBOL	DESCRIPTION
1	B	Base
2	E	Emitter
3	C	Collector

☐ MARKING : AB1

☐ MAXIMUM RATINGS

SYMBOL	PARAMETER	CONDITION	VALUE	Unit
V_{CBO}	Collector-Base Voltage	Open Emitter	25	V
V_{CEO}	Collector-Emitter Voltage	Open Base	12	V
V_{EBO}	Emitter-Base Voltage	Open Collector	2.5	V
Ic	Collector Current (DC)		100	mA
P_T	Total Power Dissipation	Ts = 60℃	150	mW
T_{STG}	Storage Temperature		-65 ~ 150	℃
T_J	Operating Junction Temperature		150	℃

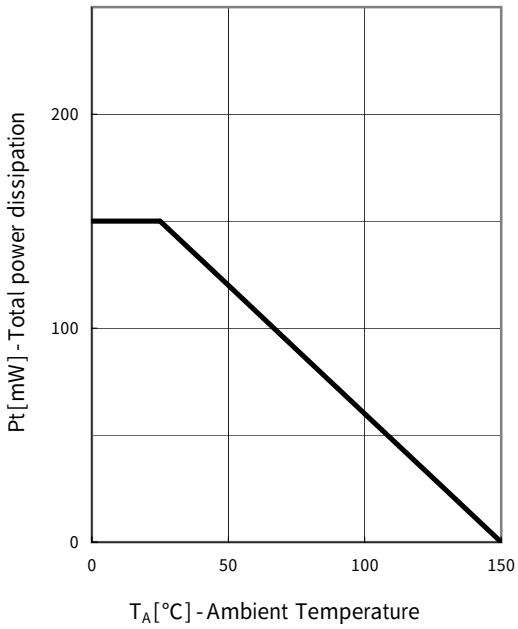
☐ Electrical Characteristics (T_A = 25 ℃)

SYMBOL	PARAMETER	CONDITION	VALUE			Unit
			min	typ	max	
V_{CBO}	Collector-Base Voltage	I_{CE} = 100uA, I_E = 0	20	25		V
V_{CEO}	Collector-Emitter Voltage	I_{CE} = 100uA, I_B = 0	12	13		V
I_{CBO}	Collector-Cut-off current	V_{CB} = 10V, I_E = 0			100	n A
I_{EBO}	Emitter-Cut-off current	V_{EB} = 1V, I_C = 0			100	n A
hfe	D.C Current Gain	V_{CE} = 3V, Ic = 7mA	130		300	
f_T	Transition Frequency	V_{CE} = 3V, Ic = 7mA		5		GHz
C_{CB}	Collector-Base Capacitance	V_{CB} = 10V, f = 1MHz		0.90		pF

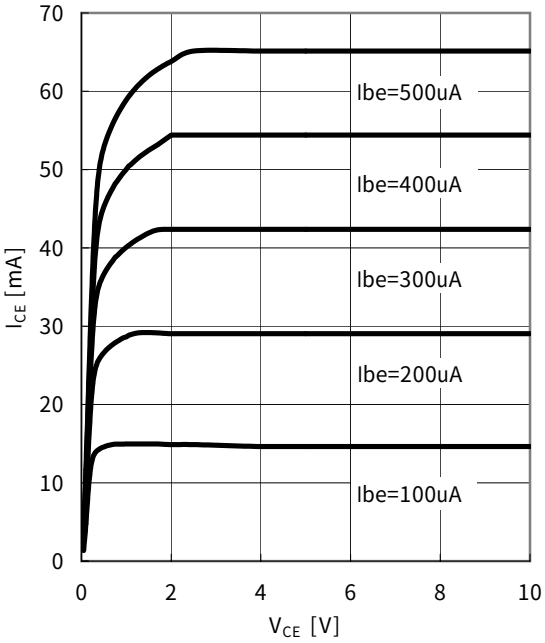
☐ Performance Characteristics

SYMBOL	PARAMETER	CONDITION	VALUE			Unit
			min	typ	max	
$[S21]^2$	Insertion Power Gain	V_{CE}=3V, Ic=7mA,f=1GHz		9.5		dB
		V_{CE}=3V, Ic=15mA,f=1GHz		11		
MSG	Maximum Stable Gain	V_{CE}=3V, Ic=7mA,f=1GHz		14		dB
MAG	Maximum Available Gain	V_{CE}=3V, Ic=15mA,f=1GHz		14.5		
NFmin	Minimum Noise Figure	V_{CE}=3V, Ic=7mA,f=1GHz		1.0		dB
rn	Noise Resistance	V_{CE}=3V, Ic=7mA,f=1GHz		0.056		Ω
G_A	Associated Gain	V_{CE}=3V, Ic=7mA,f=1GHz		12		dB
		V_{CE}=3V, Ic=15mA,f=1GHz		12.5		
OIP_3	Output 3rd Intercept	V_{CE}=6V, Ic=15mA,f=1GHz		27		dBm

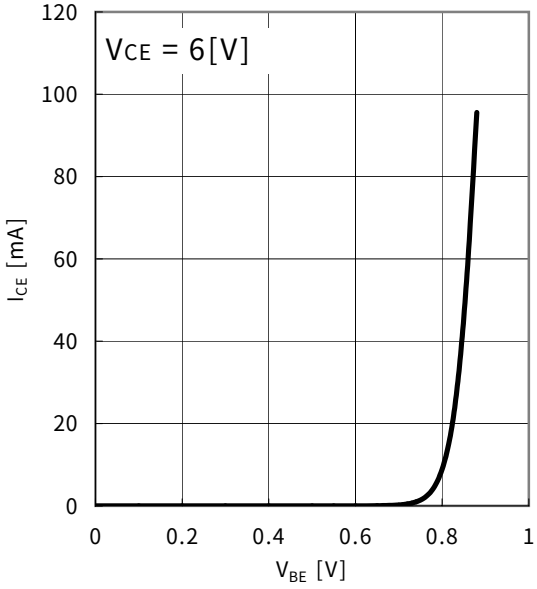
Total power dissipation *Pt = f(T A)*
(T_A = 25 ℃)



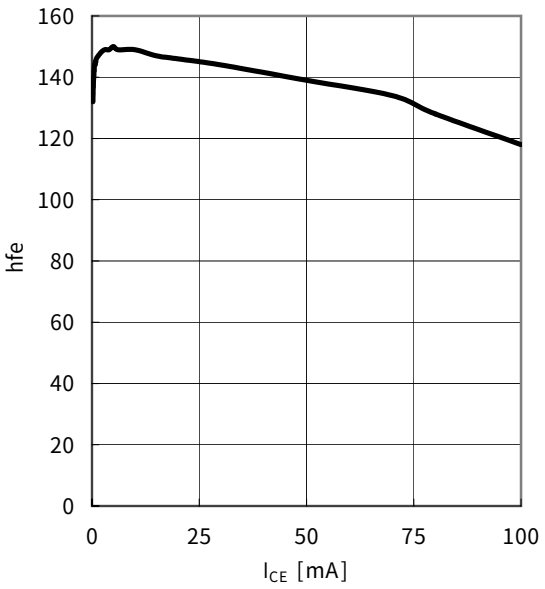
Icc vs. VCE



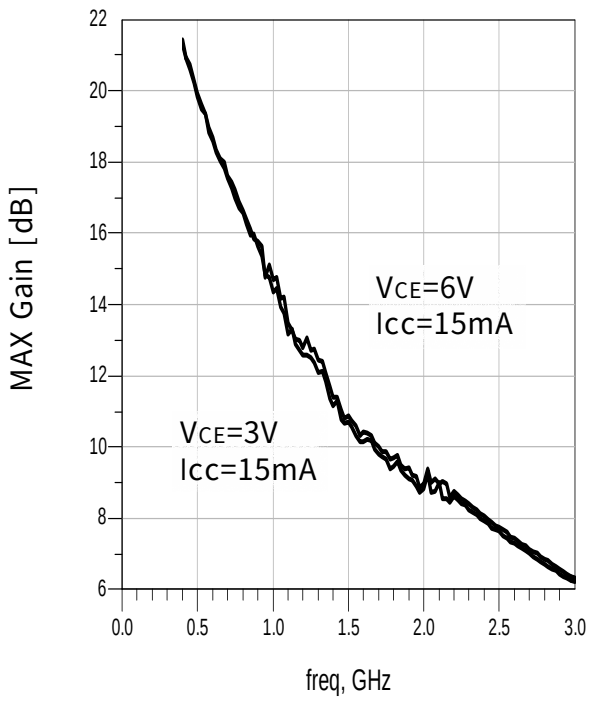
Icc vs. VBE



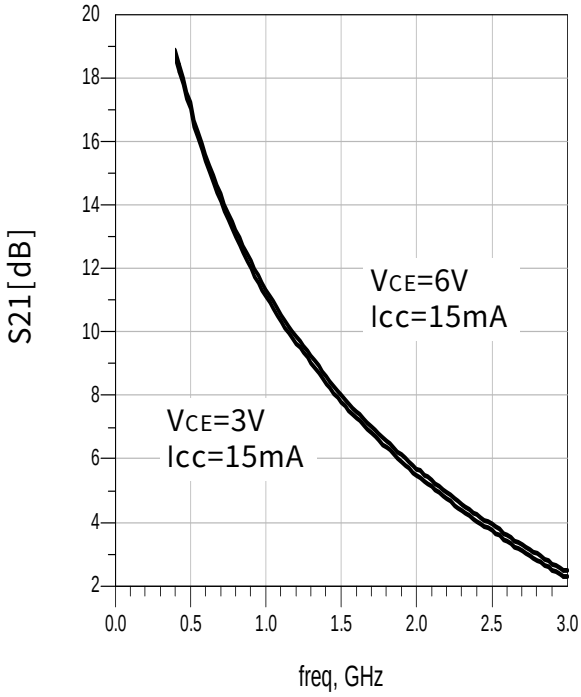
hfe vs. Icc



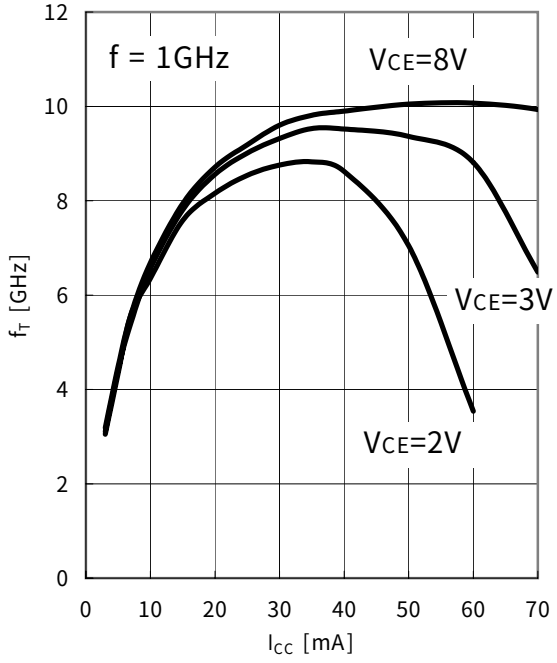
Power Gain : MSG, MAG vs. Frequency



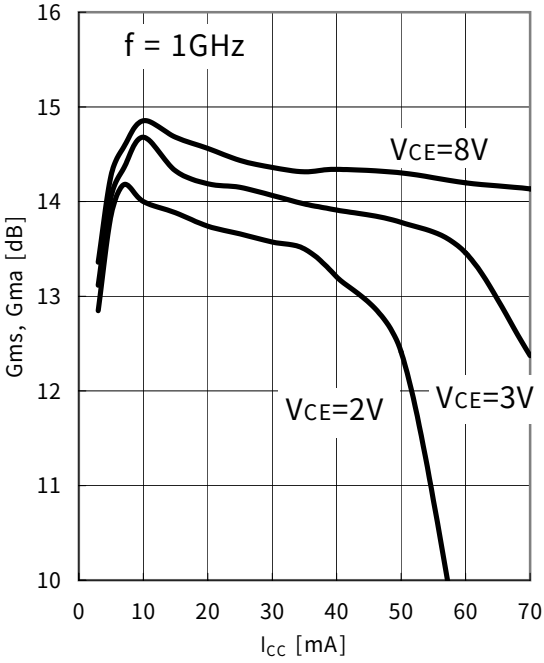
Power Gain : S_{21} vs. Frequency



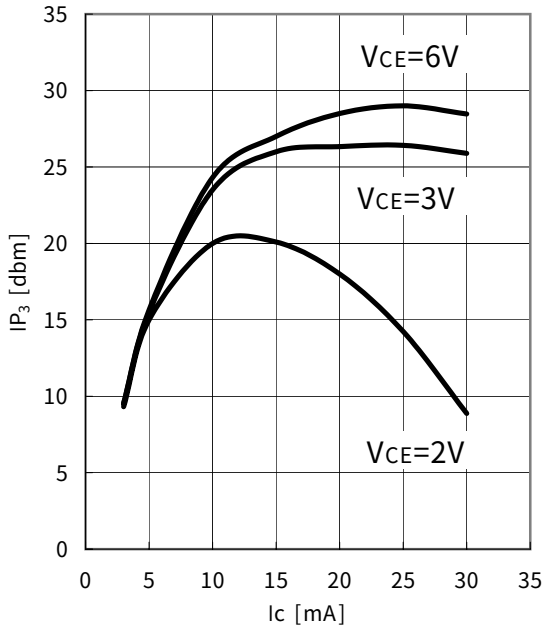
Transition Frequency : fT vs. Icc



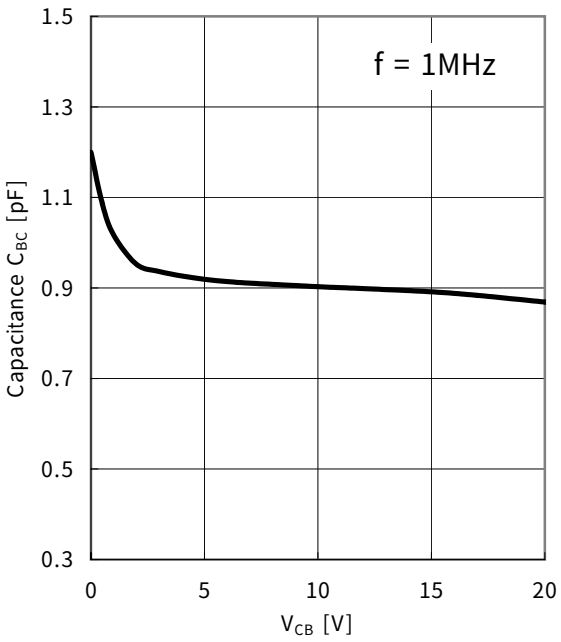
Power Gain : MSG, MAG vs. Icc



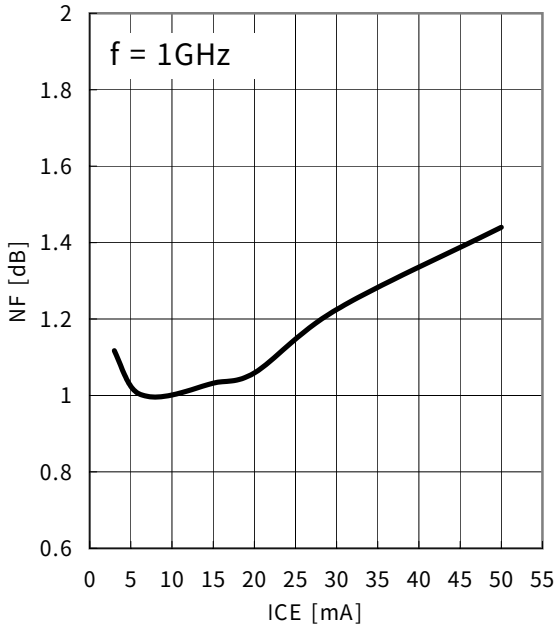
Intermodulation Intercept Point *IP3=f(Ic)*
(Z_S =Z_L= 50 Ω)



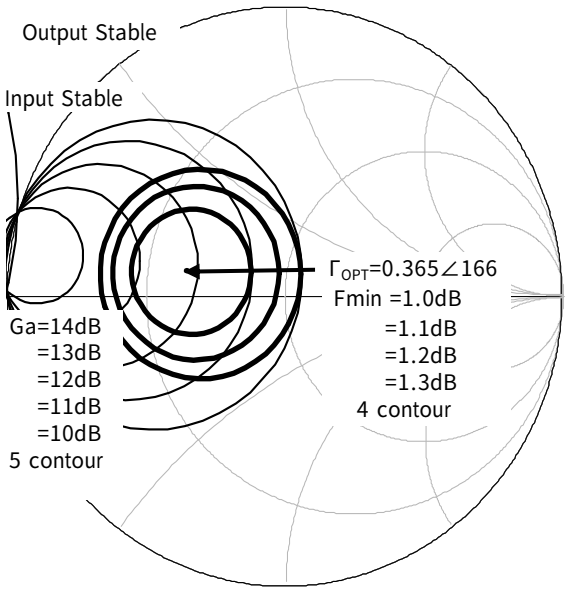
CCB vs. VCB



Fmin vs. Icc
VCE = 3V, Icc = parameter, Zs = Zsopt



Noise Figure Contours & Constant Gain
f = 1 GHz, VCE = 3V, Icc = 7mA



☐ Common Emitter S-Parameter Data

V_{CE} = 3V, I_{CC} = 3mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.673 / -114.987	5.277 / 104.719	0.112 / 33.127	0.560 / -65.480
600.0MHz	0.638 / -138.494	3.824 / 89.089	0.119 / 25.394	0.468 / -78.630
800.0MHz	0.621 / -154.045	2.986 / 77.167	0.120 / 26.074	0.423 / -87.931
1.000GHz	0.615 / -166.340	2.427 / 67.147	0.118 / 26.587	0.408 / -97.480
1.200GHz	0.615 / -175.451	2.047 / 59.066	0.120 / 31.134	0.414 / -103.003
1.400GHz	0.619 / 175.679	1.775 / 50.763	0.122 / 35.241	0.433 / -112.054
1.600GHz	0.630 / 168.154	1.560 / 43.978	0.128 / 40.651	0.445 / -118.347
1.800GHz	0.639 / 160.586	1.396 / 37.461	0.142 / 46.239	0.466 / -124.215
2.000GHz	0.652 / 154.371	1.251 / 31.728	0.158 / 49.759	0.489 / -130.749
2.200GHz	0.664 / 147.663	1.140 / 26.350	0.178 / 51.706	0.510 / -137.368
2.400GHz	0.676 / 141.686	1.037 / 21.885	0.203 / 52.773	0.532 / -143.298
2.600GHz	0.688 / 135.962	0.957 / 17.238	0.228 / 52.137	0.555 / -149.898
2.800GHz	0.698 / 129.276	0.880 / 13.492	0.252 / 50.962	0.574 / -153.669
3.000GHz	0.702 / 124.245	0.820 / 10.887	0.277 / 49.033	0.600 / -159.899

V_{CE} = 3V, I_{CC} = 5mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.608 / -130.316	6.583 / 99.461	0.094 / 36.800	0.446 / -80.512
600.0MHz	0.589 / -151.091	4.645 / 86.103	0.099 / 33.445	0.365 / -93.557
800.0MHz	0.582 / -164.528	3.580 / 75.923	0.106 / 36.687	0.332 / -103.207
1.000GHz	0.578 / -174.963	2.897 / 67.151	0.114 / 38.646	0.325 / -112.034
1.200GHz	0.578 / 177.112	2.442 / 60.112	0.122 / 43.075	0.333 / -116.490
1.400GHz	0.584 / 169.074	2.115 / 52.573	0.134 / 45.587	0.349 / -124.461
1.600GHz	0.594 / 162.489	1.865 / 46.391	0.148 / 47.775	0.364 / -129.522
1.800GHz	0.602 / 155.726	1.671 / 40.360	0.164 / 49.604	0.385 / -133.966
2.000GHz	0.614 / 150.194	1.507 / 34.891	0.183 / 50.330	0.406 / -139.189
2.200GHz	0.626 / 144.092	1.377 / 29.587	0.202 / 50.406	0.428 / -144.627
2.400GHz	0.634 / 138.748	1.261 / 25.062	0.223 / 50.031	0.450 / -149.506
2.600GHz	0.648 / 133.536	1.167 / 20.159	0.245 / 48.954	0.470 / -155.244
2.800GHz	0.658 / 127.399	1.078 / 15.966	0.266 / 47.557	0.493 / -157.981
3.000GHz	0.665 / 122.691	1.010 / 12.739	0.286 / 45.704	0.520 / -163.520

V_{CE} = 3V, I_{CC} = 7mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.579 / -139.964	7.314 / 96.405	0.081 / 39.745	0.384 / -90.569
600.0MHz	0.567 / -158.423	5.094 / 84.431	0.090 / 41.369	0.321 / -105.358
800.0MHz	0.567 / -170.703	3.906 / 75.177	0.102 / 43.417	0.293 / -115.141
1.000GHz	0.565 / 179.907	3.151 / 67.152	0.116 / 46.183	0.290 / -123.636
1.200GHz	0.565 / 172.650	2.655 / 60.642	0.130 / 49.891	0.298 / -126.601
1.400GHz	0.569 / 165.231	2.301 / 53.577	0.142 / 49.301	0.317 / -133.894
1.600GHz	0.580 / 159.074	2.030 / 47.800	0.158 / 50.743	0.331 / -138.204
1.800GHz	0.584 / 152.724	1.821 / 41.942	0.177 / 51.161	0.350 / -141.540
2.000GHz	0.597 / 147.584	1.644 / 36.720	0.195 / 51.307	0.370 / -146.278
2.200GHz	0.607 / 141.648	1.507 / 31.553	0.215 / 50.069	0.391 / -150.815
2.400GHz	0.615 / 136.817	1.383 / 27.089	0.234 / 49.414	0.411 / -155.139
2.600GHz	0.628 / 131.947	1.283 / 22.205	0.254 / 47.818	0.433 / -160.268
2.800GHz	0.636 / 125.846	1.190 / 17.979	0.276 / 46.223	0.451 / -162.008
3.000GHz	0.646 / 121.257	1.115 / 14.701	0.295 / 44.058	0.479 / -167.273

V_{CE} = 3V, I_{CC} = 10mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.559 / -150.284	7.994 / 93.404	0.071 / 45.822	0.334 / -104.332
600.0MHz	0.551 / -165.545	5.514 / 82.777	0.085 / 49.303	0.289 / -118.976
800.0MHz	0.555 / -176.363	4.209 / 74.465	0.099 / 50.859	0.269 / -128.646
1.000GHz	0.553 / 174.985	3.390 / 67.109	0.115 / 52.217	0.274 / -136.958
1.200GHz	0.553 / 168.103	2.860 / 61.143	0.134 / 53.710	0.278 / -138.235
1.400GHz	0.558 / 161.453	2.473 / 54.469	0.149 / 53.956	0.299 / -144.689
1.600GHz	0.567 / 155.842	2.182 / 49.075	0.167 / 53.921	0.311 / -148.121
1.800GHz	0.573 / 149.722	1.960 / 43.523	0.189 / 52.578	0.328 / -150.913
2.000GHz	0.582 / 144.861	1.773 / 38.571	0.207 / 51.705	0.345 / -154.610
2.200GHz	0.592 / 139.262	1.628 / 33.571	0.227 / 50.213	0.363 / -158.450
2.400GHz	0.599 / 134.650	1.496 / 29.170	0.247 / 48.748	0.383 / -161.982
2.600GHz	0.612 / 130.030	1.392 / 24.451	0.267 / 46.630	0.403 / -166.713
2.800GHz	0.621 / 124.231	1.296 / 20.198	0.286 / 44.712	0.418 / -167.610
3.000GHz	0.625 / 119.776	1.218 / 16.730	0.304 / 42.767	0.448 / -172.042

V_{CE} = 3V, I_{CC} = 15mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.540 / -158.963	8.574 / 90.734	0.064 / 55.060	0.300 / -119.381
600.0MHz	0.544 / -172.674	5.867 / 81.377	0.081 / 54.967	0.274 / -133.475
800.0MHz	0.546 / 178.235	4.468 / 73.838	0.099 / 56.613	0.262 / -141.916
1.000GHz	0.547 / 170.986	3.593 / 67.078	0.119 / 58.135	0.270 / -149.034
1.200GHz	0.547 / 164.387	3.027 / 61.586	0.140 / 57.400	0.273 / -150.233
1.400GHz	0.551 / 158.009	2.619 / 55.284	0.158 / 56.598	0.294 / -155.420
1.600GHz	0.559 / 152.608	2.313 / 50.205	0.178 / 55.707	0.305 / -158.183
1.800GHz	0.565 / 146.962	2.077 / 44.929	0.199 / 54.371	0.319 / -159.827
2.000GHz	0.573 / 142.338	1.882 / 40.195	0.218 / 52.324	0.334 / -162.935
2.200GHz	0.583 / 136.807	1.730 / 35.338	0.238 / 50.297	0.350 / -166.552
2.400GHz	0.588 / 132.488	1.591 / 31.149	0.257 / 48.489	0.367 / -169.225
2.600GHz	0.600 / 128.107	1.484 / 26.464	0.277 / 46.629	0.385 / -173.166
2.800GHz	0.608 / 122.458	1.382 / 22.346	0.295 / 44.066	0.399 / -173.696
3.000GHz	0.612 / 118.335	1.300 / 18.986	0.311 / 41.615	0.426 / -177.576

V_{CE} = 3V, I_{CC} = 20mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.532 / -165.104	8.858 / 89.330	0.060 / 53.668	0.290 / -129.289
600.0MHz	0.540 / -176.304	6.043 / 80.623	0.080 / 58.315	0.270 / -141.338
800.0MHz	0.546 / 175.345	4.596 / 73.486	0.100 / 59.980	0.262 / -149.166
1.000GHz	0.546 / 168.421	3.692 / 67.033	0.122 / 60.727	0.272 / -155.829
1.200GHz	0.544 / 162.092	3.113 / 61.784	0.142 / 59.994	0.275 / -156.455
1.400GHz	0.550 / 156.193	2.692 / 55.669	0.164 / 58.074	0.297 / -161.267
1.600GHz	0.557 / 150.786	2.379 / 50.791	0.184 / 56.403	0.306 / -163.324
1.800GHz	0.562 / 145.410	2.137 / 45.618	0.205 / 54.571	0.317 / -164.924
2.000GHz	0.569 / 140.811	1.935 / 41.043	0.225 / 52.417	0.333 / -167.967
2.200GHz	0.578 / 135.541	1.780 / 36.314	0.244 / 50.549	0.349 / -170.988
2.400GHz	0.583 / 131.207	1.639 / 32.191	0.263 / 48.213	0.365 / -173.386
2.600GHz	0.596 / 126.945	1.529 / 27.580	0.282 / 46.163	0.381 / -177.205
2.800GHz	0.601 / 121.328	1.424 / 23.532	0.301 / 43.260	0.393 / -177.295
3.000GHz	0.607 / 117.381	1.346 / 20.210	0.317 / 41.371	0.417 / 178.980

V_{CE} = 3V, I_{CC} = 25mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.534 / -168.349	9.021 / 88.378	0.059 / 58.130	0.281 / -134.569
600.0MHz	0.540 / -178.806	6.139 / 80.084	0.080 / 62.152	0.270 / -146.356
800.0MHz	0.546 / 173.426	4.668 / 73.230	0.101 / 62.385	0.267 / -154.230
1.000GHz	0.547 / 166.638	3.747 / 66.958	0.124 / 61.879	0.278 / -159.845
1.200GHz	0.544 / 160.837	3.159 / 61.866	0.142 / 61.722	0.281 / -160.166
1.400GHz	0.552 / 154.991	2.731 / 55.885	0.165 / 59.236	0.300 / -164.576
1.600GHz	0.557 / 149.601	2.411 / 51.093	0.187 / 57.209	0.309 / -166.975
1.800GHz	0.562 / 144.302	2.169 / 46.048	0.208 / 54.608	0.319 / -168.126
2.000GHz	0.569 / 139.862	1.964 / 41.564	0.228 / 52.885	0.333 / -171.034
2.200GHz	0.578 / 134.475	1.806 / 36.904	0.248 / 50.668	0.349 / -173.956
2.400GHz	0.580 / 130.327	1.666 / 32.817	0.268 / 48.069	0.364 / -176.556
2.600GHz	0.593 / 126.210	1.554 / 28.336	0.286 / 45.831	0.379 / -179.984
2.800GHz	0.600 / 120.526	1.449 / 24.236	0.304 / 43.053	0.391 / -179.754
3.000GHz	0.605 / 116.647	1.367 / 20.863	0.320 / 40.942	0.415 / 176.698

V_{CE} = 3V, I_{CC} = 30mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.534 / -171.192	9.106 / 87.689	0.057 / 58.092	0.282 / -138.863
600.0MHz	0.543 / 179.433	6.194 / 79.703	0.080 / 65.483	0.273 / -149.966
800.0MHz	0.547 / 172.121	4.705 / 73.044	0.101 / 63.859	0.270 / -157.574
1.000GHz	0.548 / 165.659	3.778 / 66.946	0.124 / 63.324	0.283 / -162.976
1.200GHz	0.547 / 159.876	3.184 / 61.927	0.147 / 61.767	0.282 / -162.806
1.400GHz	0.552 / 153.895	2.752 / 55.998	0.168 / 60.126	0.304 / -167.226
1.600GHz	0.560 / 148.681	2.430 / 51.291	0.190 / 57.511	0.313 / -169.388
1.800GHz	0.563 / 143.398	2.187 / 46.324	0.211 / 55.292	0.322 / -170.532
2.000GHz	0.570 / 139.000	1.980 / 41.863	0.232 / 53.291	0.334 / -173.204
2.200GHz	0.577 / 133.957	1.822 / 37.234	0.251 / 50.615	0.349 / -176.093
2.400GHz	0.582 / 129.724	1.679 / 33.202	0.271 / 48.178	0.365 / -178.416
2.600GHz	0.593 / 125.399	1.568 / 28.771	0.290 / 45.538	0.381 / 178.068
2.800GHz	0.598 / 120.214	1.464 / 24.712	0.307 / 43.185	0.387 / 178.388
3.000GHz	0.603 / 116.192	1.382 / 21.431	0.324 / 40.765	0.413 / 174.669

V_{CE} = 6V, I_{CC} = 3mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.669 / -113.864	5.375 / 105.421	0.110 / 33.904	0.572 / -64.502
600.0MHz	0.637 / -137.206	3.906 / 89.730	0.117 / 27.067	0.472 / -77.496
800.0MHz	0.620 / -153.113	3.047 / 77.780	0.118 / 25.129	0.426 / -87.134
1.000GHz	0.612 / -165.474	2.481 / 67.747	0.116 / 27.928	0.410 / -96.528
1.200GHz	0.610 / -174.678	2.093 / 59.749	0.117 / 30.860	0.416 / -101.862
1.400GHz	0.617 / 176.326	1.813 / 51.422	0.120 / 36.467	0.434 / -110.820
1.600GHz	0.627 / 168.879	1.594 / 44.674	0.127 / 41.550	0.444 / -117.538
1.800GHz	0.636 / 161.304	1.422 / 38.113	0.141 / 46.336	0.469 / -123.324
2.000GHz	0.647 / 155.074	1.280 / 32.380	0.157 / 50.238	0.490 / -129.888
2.200GHz	0.661 / 148.139	1.163 / 26.991	0.178 / 52.213	0.510 / -136.451
2.400GHz	0.670 / 142.359	1.061 / 22.475	0.201 / 53.090	0.532 / -142.223
2.600GHz	0.686 / 136.714	0.976 / 17.892	0.225 / 52.635	0.554 / -148.883
2.800GHz	0.693 / 129.877	0.900 / 14.026	0.251 / 51.461	0.573 / -152.724
3.000GHz	0.701 / 124.794	0.837 / 11.272	0.276 / 49.957	0.600 / -159.195

V_{CE} = 6V, I_{CC} = 5mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.610 / -128.523	6.697 / 100.169	0.090 / 37.915	0.456 / -78.368
600.0MHz	0.586 / -149.449	4.730 / 86.766	0.101 / 34.340	0.374 / -92.107
800.0MHz	0.579 / -163.096	3.649 / 76.526	0.105 / 37.057	0.337 / -101.437
1.000GHz	0.572 / -173.659	2.955 / 67.761	0.113 / 38.620	0.329 / -110.603
1.200GHz	0.574 / 178.240	2.493 / 60.687	0.122 / 43.770	0.336 / -114.708
1.400GHz	0.578 / 170.019	2.158 / 53.157	0.130 / 45.312	0.352 / -123.008
1.600GHz	0.590 / 163.412	1.901 / 47.009	0.146 / 48.282	0.365 / -128.356
1.800GHz	0.596 / 156.548	1.703 / 40.934	0.163 / 50.141	0.386 / -132.449
2.000GHz	0.609 / 151.192	1.534 / 35.506	0.179 / 50.772	0.407 / -138.164
2.200GHz	0.619 / 144.732	1.403 / 30.143	0.200 / 50.656	0.429 / -143.386
2.400GHz	0.630 / 139.494	1.284 / 25.574	0.222 / 50.835	0.448 / -148.383
2.600GHz	0.643 / 134.192	1.190 / 20.877	0.243 / 49.308	0.470 / -154.335
2.800GHz	0.653 / 127.859	1.099 / 16.501	0.265 / 48.444	0.492 / -156.909
3.000GHz	0.659 / 123.165	1.027 / 13.189	0.284 / 46.518	0.520 / -162.622

V_{CE} = 6V, I_{CC} = 7mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.571 / -138.645	7.482 / 96.972	0.079 / 40.664	0.390 / -89.776
600.0MHz	0.562 / -157.293	5.221 / 84.981	0.090 / 40.413	0.324 / -103.388
800.0MHz	0.560 / -169.504	4.002 / 75.710	0.100 / 44.171	0.295 / -113.105
1.000GHz	0.555 / -179.040	3.233 / 67.694	0.114 / 45.677	0.291 / -122.019
1.200GHz	0.555 / 173.382	2.725 / 61.247	0.127 / 49.279	0.299 / -124.940
1.400GHz	0.562 / 165.835	2.359 / 54.189	0.141 / 50.185	0.316 / -132.431
1.600GHz	0.571 / 159.619	2.080 / 48.374	0.158 / 50.892	0.329 / -136.960
1.800GHz	0.579 / 153.412	1.866 / 42.541	0.175 / 51.382	0.349 / -140.439
2.000GHz	0.589 / 148.294	1.684 / 37.382	0.194 / 51.615	0.367 / -145.082
2.200GHz	0.599 / 142.293	1.544 / 32.206	0.213 / 50.477	0.389 / -149.856
2.400GHz	0.609 / 137.374	1.417 / 27.750	0.235 / 49.517	0.409 / -154.206
2.600GHz	0.623 / 132.430	1.315 / 22.831	0.254 / 48.263	0.430 / -159.232
2.800GHz	0.630 / 126.499	1.219 / 18.598	0.275 / 46.534	0.451 / -161.144
3.000GHz	0.637 / 122.063	1.143 / 15.205	0.294 / 44.654	0.477 / -166.265

V_{CE} = 6V, I_{CC} = 10mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.549 / -148.029	8.173 / 94.111	0.070 / 46.377	0.339 / -101.255
600.0MHz	0.543 / -164.309	5.643 / 83.372	0.085 / 49.057	0.292 / -116.265
800.0MHz	0.545 / -175.279	4.310 / 75.015	0.100 / 49.263	0.268 / -126.260
1.000GHz	0.544 / 176.061	3.473 / 67.599	0.113 / 52.067	0.274 / -134.586
1.200GHz	0.543 / 169.153	2.926 / 61.652	0.132 / 53.970	0.276 / -136.227
1.400GHz	0.550 / 162.231	2.534 / 55.010	0.150 / 53.672	0.295 / -142.703
1.600GHz	0.559 / 156.249	2.234 / 49.602	0.168 / 53.653	0.311 / -146.638
1.800GHz	0.564 / 150.515	2.007 / 44.057	0.187 / 53.231	0.325 / -149.200
2.000GHz	0.573 / 145.599	1.814 / 39.094	0.207 / 51.512	0.342 / -153.305
2.200GHz	0.583 / 139.815	1.667 / 34.141	0.225 / 50.358	0.361 / -157.074
2.400GHz	0.592 / 135.344	1.531 / 29.717	0.245 / 48.761	0.382 / -160.636
2.600GHz	0.605 / 130.542	1.426 / 25.010	0.264 / 47.073	0.401 / -165.433
2.800GHz	0.612 / 124.667	1.324 / 20.738	0.284 / 44.915	0.417 / -166.225
3.000GHz	0.620 / 120.391	1.244 / 17.249	0.302 / 43.155	0.444 / -170.851

V_{CE} = 6V, I_{CC} = 15mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.530 / -157.455	8.769 / 91.541	0.063 / 51.620	0.301 / -115.430
600.0MHz	0.533 / -171.007	6.007 / 81.996	0.081 / 54.713	0.273 / -129.376
800.0MHz	0.537 / 179.535	4.577 / 74.383	0.099 / 56.708	0.260 / -138.416
1.000GHz	0.537 / 171.657	3.681 / 67.614	0.118 / 57.156	0.268 / -146.507
1.200GHz	0.537 / 165.308	3.104 / 62.115	0.139 / 58.093	0.269 / -147.659
1.400GHz	0.541 / 158.899	2.685 / 55.759	0.157 / 56.450	0.289 / -152.628
1.600GHz	0.550 / 153.281	2.369 / 50.703	0.177 / 55.431	0.301 / -155.942
1.800GHz	0.554 / 147.722	2.127 / 45.368	0.197 / 53.837	0.315 / -157.800
2.000GHz	0.562 / 143.099	1.926 / 40.643	0.216 / 52.449	0.330 / -161.194
2.200GHz	0.572 / 137.551	1.770 / 35.816	0.235 / 50.638	0.347 / -164.670
2.400GHz	0.579 / 133.058	1.630 / 31.614	0.255 / 48.661	0.364 / -167.764
2.600GHz	0.593 / 128.842	1.517 / 26.944	0.274 / 46.613	0.382 / -171.492
2.800GHz	0.598 / 123.168	1.414 / 22.715	0.293 / 44.496	0.396 / -172.058
3.000GHz	0.606 / 118.668	1.331 / 19.314	0.309 / 41.811	0.421 / -176.030

V_{CE} = 6V, I_{CC} = 20mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.524 / -163.017	9.068 / 90.151	0.061 / 55.605	0.288 / -124.907
600.0MHz	0.530 / -174.767	6.197 / 81.230	0.080 / 58.158	0.269 / -137.517
800.0MHz	0.533 / 176.794	4.717 / 74.027	0.099 / 60.899	0.259 / -145.871
1.000GHz	0.533 / 169.254	3.789 / 67.541	0.119 / 60.106	0.270 / -153.470
1.200GHz	0.533 / 163.305	3.195 / 62.254	0.142 / 59.632	0.271 / -153.276
1.400GHz	0.541 / 156.919	2.763 / 56.165	0.164 / 58.359	0.291 / -158.706
1.600GHz	0.546 / 151.537	2.438 / 51.230	0.182 / 56.393	0.301 / -160.937
1.800GHz	0.550 / 146.164	2.191 / 46.080	0.204 / 54.588	0.313 / -162.696
2.000GHz	0.559 / 141.549	1.983 / 41.486	0.223 / 52.646	0.328 / -165.811
2.200GHz	0.568 / 136.179	1.823 / 36.777	0.243 / 50.484	0.344 / -168.891
2.400GHz	0.573 / 131.897	1.680 / 32.608	0.262 / 48.406	0.360 / -171.771
2.600GHz	0.585 / 127.673	1.567 / 28.008	0.279 / 46.036	0.378 / -175.544
2.800GHz	0.590 / 121.842	1.461 / 23.905	0.298 / 44.087	0.389 / -175.584
3.000GHz	0.597 / 117.984	1.375 / 20.494	0.315 / 41.687	0.413 / -179.506

V_{CE} = 6V, I_{CC} = 25mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.521 / -166.236	9.269 / 89.185	0.060 / 59.246	0.286 / -129.940
600.0MHz	0.526 / -177.490	6.317 / 80.724	0.078 / 61.322	0.268 / -142.516
800.0MHz	0.532 / 174.709	4.803 / 73.791	0.099 / 62.435	0.261 / -150.799
1.000GHz	0.532 / 167.702	3.857 / 67.519	0.120 / 61.683	0.272 / -157.036
1.200GHz	0.532 / 161.677	3.249 / 62.369	0.142 / 60.704	0.271 / -157.654
1.400GHz	0.537 / 155.808	2.810 / 56.370	0.163 / 59.381	0.293 / -162.193
1.600GHz	0.546 / 150.449	2.481 / 51.600	0.184 / 57.123	0.301 / -164.357
1.800GHz	0.548 / 144.983	2.231 / 46.534	0.206 / 55.048	0.314 / -165.924
2.000GHz	0.557 / 140.559	2.020 / 41.993	0.226 / 52.733	0.326 / -168.695
2.200GHz	0.565 / 135.284	1.857 / 37.346	0.244 / 50.652	0.343 / -171.739
2.400GHz	0.570 / 130.975	1.711 / 33.229	0.264 / 48.411	0.360 / -174.174
2.600GHz	0.583 / 126.800	1.595 / 28.764	0.285 / 46.279	0.375 / -177.914
2.800GHz	0.589 / 121.429	1.489 / 24.630	0.303 / 43.628	0.384 / -177.681
3.000GHz	0.594 / 117.227	1.404 / 21.306	0.316 / 41.389	0.409 / 178.251

V_{CE} = 6V, I_{CC} = 30mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.520 / -168.626	9.389 / 88.510	0.058 / 63.696	0.281 / -134.488
600.0MHz	0.524 / -178.959	6.393 / 80.357	0.081 / 64.520	0.268 / -145.684
800.0MHz	0.532 / 173.180	4.856 / 73.588	0.101 / 62.984	0.263 / -153.952
1.000GHz	0.533 / 166.655	3.899 / 67.473	0.124 / 61.947	0.274 / -159.903
1.200GHz	0.533 / 160.717	3.287 / 62.454	0.145 / 61.965	0.274 / -160.167
1.400GHz	0.536 / 154.681	2.842 / 56.579	0.165 / 59.448	0.295 / -164.485
1.600GHz	0.544 / 149.741	2.507 / 51.854	0.187 / 57.609	0.305 / -166.543
1.800GHz	0.549 / 144.174	2.255 / 46.829	0.206 / 55.254	0.314 / -168.110
2.000GHz	0.554 / 139.892	2.042 / 42.328	0.228 / 53.103	0.327 / -171.022
2.200GHz	0.564 / 134.619	1.878 / 37.739	0.249 / 50.604	0.343 / -173.739
2.400GHz	0.569 / 130.332	1.730 / 33.716	0.266 / 48.433	0.359 / -176.172
2.600GHz	0.580 / 126.219	1.615 / 29.229	0.285 / 45.952	0.375 / -179.349
2.800GHz	0.586 / 120.651	1.506 / 25.162	0.304 / 43.597	0.382 / -179.513
3.000GHz	0.590 / 116.626	1.421 / 21.817	0.321 / 40.941	0.409 / 176.699

V_{CE} = 6V, I_{CC} = 35mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.514 / -170.908	9.452 / 88.097	0.056 / 63.409	0.275 / -137.063
600.0MHz	0.528 / 179.828	6.433 / 80.115	0.079 / 65.041	0.266 / -148.457
800.0MHz	0.531 / 172.391	4.886 / 73.487	0.102 / 65.466	0.264 / -156.103
1.000GHz	0.534 / 165.755	3.924 / 67.417	0.123 / 62.764	0.276 / -161.738
1.200GHz	0.531 / 159.988	3.305 / 62.463	0.145 / 62.791	0.277 / -161.985
1.400GHz	0.539 / 154.175	2.859 / 56.587	0.167 / 60.433	0.297 / -165.832
1.600GHz	0.545 / 149.091	2.523 / 51.893	0.188 / 57.602	0.307 / -167.937
1.800GHz	0.549 / 143.583	2.267 / 46.973	0.210 / 55.519	0.315 / -169.584
2.000GHz	0.556 / 139.239	2.053 / 42.538	0.230 / 53.267	0.329 / -172.297
2.200GHz	0.564 / 134.095	1.890 / 37.950	0.250 / 50.676	0.343 / -174.871
2.400GHz	0.568 / 130.130	1.741 / 33.943	0.269 / 48.320	0.357 / -177.311
2.600GHz	0.580 / 125.794	1.625 / 29.506	0.288 / 45.779	0.374 / 179.334
2.800GHz	0.585 / 120.468	1.517 / 25.453	0.307 / 43.601	0.384 / 179.303
3.000GHz	0.590 / 116.244	1.432 / 22.090	0.322 / 40.912	0.407 / 175.872

V_{CE} = 6V, I_{CC} = 40mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.516 / -171.755	9.506 / 87.713	0.057 / 65.818	0.277 / -138.769
600.0MHz	0.528 / 178.321	6.454 / 79.894	0.081 / 65.657	0.269 / -150.032
800.0MHz	0.534 / 171.426	4.906 / 73.340	0.102 / 65.886	0.266 / -157.427
1.000GHz	0.536 / 165.258	3.937 / 67.362	0.124 / 63.397	0.276 / -162.829
1.200GHz	0.535 / 159.337	3.317 / 62.447	0.144 / 63.389	0.279 / -163.088
1.400GHz	0.537 / 153.791	2.869 / 56.641	0.166 / 60.734	0.297 / -167.344
1.600GHz	0.545 / 148.686	2.530 / 51.979	0.189 / 58.457	0.307 / -169.182
1.800GHz	0.548 / 143.451	2.277 / 47.054	0.210 / 56.143	0.315 / -170.395
2.000GHz	0.557 / 138.845	2.061 / 42.613	0.231 / 53.738	0.329 / -173.052
2.200GHz	0.564 / 133.791	1.896 / 38.083	0.252 / 50.930	0.343 / -175.978
2.400GHz	0.569 / 129.630	1.748 / 34.106	0.271 / 48.169	0.357 / -177.855
2.600GHz	0.580 / 125.326	1.633 / 29.670	0.289 / 46.202	0.374 / 178.274
2.800GHz	0.586 / 119.890	1.522 / 25.651	0.308 / 43.502	0.383 / 178.832
3.000GHz	0.588 / 116.020	1.436 / 22.259	0.323 / 40.781	0.405 / 175.138

V_{CE} = 6V, I_{CC} = 50mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.521 / -174.271	9.519 / 87.216	0.056 / 67.248	0.278 / -141.934
600.0MHz	0.530 / 176.963	6.469 / 79.574	0.079 / 67.031	0.266 / -151.912
800.0MHz	0.536 / 170.198	4.912 / 73.115	0.101 / 67.631	0.267 / -159.091
1.000GHz	0.537 / 164.175	3.941 / 67.217	0.126 / 65.531	0.280 / -164.570
1.200GHz	0.534 / 158.607	3.324 / 62.353	0.149 / 63.861	0.277 / -164.343
1.400GHz	0.542 / 152.830	2.871 / 56.587	0.169 / 60.791	0.297 / -168.321
1.600GHz	0.548 / 147.875	2.537 / 51.988	0.190 / 58.830	0.307 / -170.599
1.800GHz	0.551 / 142.552	2.280 / 47.080	0.212 / 56.280	0.317 / -171.373
2.000GHz	0.558 / 138.383	2.064 / 42.696	0.233 / 53.495	0.330 / -174.208
2.200GHz	0.566 / 133.169	1.899 / 38.143	0.253 / 51.483	0.345 / -176.790
2.400GHz	0.571 / 129.045	1.750 / 34.234	0.273 / 48.775	0.358 / -179.166
2.600GHz	0.583 / 124.909	1.636 / 29.828	0.291 / 45.814	0.374 / 177.445
2.800GHz	0.589 / 119.446	1.525 / 25.678	0.309 / 43.296	0.380 / 177.813
3.000GHz	0.591 / 115.497	1.439 / 22.462	0.324 / 40.754	0.404 / 174.177

V_{CE} = 6V, I_{CC} = 60mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.524 / -176.222	9.478 / 86.828	0.053 / 67.939	0.269 / -143.725
600.0MHz	0.533 / 175.899	6.438 / 79.294	0.079 / 67.520	0.265 / -153.382
800.0MHz	0.540 / 169.398	4.887 / 72.898	0.101 / 67.404	0.265 / -160.181
1.000GHz	0.542 / 163.449	3.923 / 67.011	0.126 / 65.962	0.278 / -165.224
1.200GHz	0.541 / 157.848	3.305 / 62.142	0.148 / 64.105	0.280 / -165.010
1.400GHz	0.545 / 152.478	2.859 / 56.400	0.169 / 61.647	0.297 / -169.067
1.600GHz	0.552 / 147.409	2.524 / 51.831	0.192 / 59.143	0.307 / -170.984
1.800GHz	0.556 / 142.065	2.267 / 46.905	0.212 / 56.683	0.317 / -171.968
2.000GHz	0.563 / 137.944	2.054 / 42.563	0.233 / 53.930	0.330 / -174.456
2.200GHz	0.568 / 132.821	1.890 / 38.034	0.254 / 51.297	0.344 / -177.253
2.400GHz	0.574 / 128.669	1.742 / 34.060	0.274 / 48.865	0.359 / -179.371
2.600GHz	0.585 / 124.515	1.625 / 29.663	0.293 / 46.057	0.373 / 177.238
2.800GHz	0.591 / 119.256	1.520 / 25.633	0.310 / 43.206	0.380 / 177.727
3.000GHz	0.596 / 115.072	1.433 / 22.301	0.327 / 41.015	0.405 / 173.975

V_{CE} = 8V, I_{CC} = 3mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.678 / -113.165	5.406 / 105.617	0.109 / 35.377	0.569 / -64.137
600.0MHz	0.636 / -136.802	3.932 / 89.927	0.118 / 27.881	0.475 / -77.341
800.0MHz	0.617 / -152.645	3.071 / 78.009	0.117 / 25.741	0.430 / -86.672
1.000GHz	0.608 / -164.972	2.500 / 67.897	0.115 / 26.824	0.414 / -95.944
1.200GHz	0.610 / -174.267	2.109 / 59.917	0.116 / 30.945	0.418 / -101.518
1.400GHz	0.613 / 176.761	1.828 / 51.598	0.119 / 36.084	0.433 / -110.444
1.600GHz	0.625 / 169.082	1.606 / 44.880	0.128 / 41.512	0.446 / -117.126
1.800GHz	0.633 / 161.646	1.434 / 38.344	0.139 / 47.158	0.469 / -122.951
2.000GHz	0.646 / 155.306	1.287 / 32.633	0.157 / 50.545	0.490 / -129.496
2.200GHz	0.659 / 148.396	1.172 / 27.238	0.177 / 52.534	0.511 / -135.970
2.400GHz	0.669 / 142.536	1.068 / 22.750	0.202 / 53.419	0.531 / -141.780
2.600GHz	0.684 / 136.830	0.984 / 18.170	0.227 / 52.239	0.554 / -148.527
2.800GHz	0.693 / 130.013	0.904 / 14.294	0.251 / 51.474	0.572 / -152.346
3.000GHz	0.699 / 124.932	0.841 / 11.443	0.274 / 49.953	0.601 / -158.670

V_{CE} = 8V, I_{CC} = 5mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.609 / -127.513	6.713 / 100.511	0.091 / 33.725	0.460 / -77.743
600.0MHz	0.586 / -148.380	4.750 / 86.986	0.098 / 34.845	0.380 / -90.707
800.0MHz	0.577 / -162.498	3.663 / 76.707	0.105 / 35.990	0.341 / -100.344
1.000GHz	0.573 / -173.195	2.965 / 67.905	0.111 / 39.286	0.330 / -109.442
1.200GHz	0.572 / 178.416	2.502 / 60.866	0.119 / 42.533	0.337 / -113.634
1.400GHz	0.577 / 170.392	2.167 / 53.270	0.133 / 45.112	0.354 / -121.828
1.600GHz	0.589 / 163.767	1.909 / 47.162	0.147 / 48.341	0.367 / -127.218
1.800GHz	0.596 / 156.952	1.710 / 41.072	0.162 / 49.324	0.388 / -131.668
2.000GHz	0.608 / 151.431	1.540 / 35.576	0.179 / 51.030	0.410 / -137.251
2.200GHz	0.618 / 145.063	1.409 / 30.258	0.198 / 51.127	0.429 / -142.684
2.400GHz	0.628 / 139.792	1.289 / 25.751	0.222 / 50.871	0.453 / -147.732
2.600GHz	0.642 / 134.602	1.193 / 20.825	0.242 / 49.801	0.473 / -153.537
2.800GHz	0.652 / 128.236	1.101 / 16.591	0.263 / 48.532	0.494 / -156.316
3.000GHz	0.660 / 123.495	1.028 / 13.342	0.285 / 46.643	0.523 / -162.027

V_{CE} = 8V, I_{CC} = 7mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.576 / -137.412	7.500 / 97.333	0.081 / 41.229	0.394 / -88.115
600.0MHz	0.560 / -155.937	5.238 / 85.211	0.089 / 41.349	0.329 / -101.848
800.0MHz	0.557 / -168.710	4.020 / 75.920	0.102 / 43.769	0.299 / -112.117
1.000GHz	0.552 / -178.648	3.244 / 67.832	0.113 / 46.913	0.294 / -121.269
1.200GHz	0.554 / 174.067	2.732 / 61.388	0.125 / 49.389	0.300 / -124.020
1.400GHz	0.561 / 166.588	2.367 / 54.296	0.141 / 49.803	0.317 / -131.400
1.600GHz	0.568 / 160.187	2.088 / 48.525	0.156 / 50.901	0.331 / -135.920
1.800GHz	0.576 / 153.840	1.873 / 42.684	0.174 / 51.763	0.351 / -139.639
2.000GHz	0.587 / 148.649	1.691 / 37.469	0.193 / 51.094	0.370 / -144.174
2.200GHz	0.598 / 142.662	1.548 / 32.271	0.211 / 50.696	0.390 / -149.101
2.400GHz	0.606 / 137.718	1.422 / 27.834	0.234 / 49.801	0.410 / -153.224
2.600GHz	0.621 / 132.660	1.319 / 22.973	0.253 / 48.166	0.432 / -158.583
2.800GHz	0.628 / 126.733	1.222 / 18.630	0.274 / 46.644	0.451 / -160.518
3.000GHz	0.639 / 122.165	1.145 / 15.198	0.292 / 44.875	0.479 / -165.528

V_{CE} = 8V, I_{CC} = 10mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.547 / -146.727	8.168 / 94.608	0.070 / 42.679	0.341 / -99.451
600.0MHz	0.541 / -163.335	5.646 / 83.715	0.082 / 46.648	0.295 / -114.175
800.0MHz	0.543 / -174.340	4.312 / 75.247	0.099 / 48.767	0.270 / -124.248
1.000GHz	0.541 / 176.854	3.479 / 67.802	0.114 / 52.449	0.275 / -132.579
1.200GHz	0.542 / 170.028	2.930 / 61.795	0.131 / 53.611	0.278 / -134.583
1.400GHz	0.548 / 162.944	2.536 / 55.092	0.148 / 53.452	0.298 / -140.986
1.600GHz	0.556 / 157.077	2.238 / 49.675	0.167 / 53.242	0.310 / -144.980
1.800GHz	0.561 / 151.062	2.008 / 44.095	0.185 / 52.829	0.326 / -147.611
2.000GHz	0.573 / 146.071	1.815 / 39.113	0.203 / 52.028	0.345 / -151.795
2.200GHz	0.583 / 140.298	1.668 / 34.124	0.223 / 50.591	0.363 / -155.912
2.400GHz	0.590 / 135.701	1.530 / 29.754	0.243 / 49.176	0.383 / -159.572
2.600GHz	0.603 / 130.974	1.426 / 24.966	0.262 / 47.442	0.401 / -164.219
2.800GHz	0.611 / 125.061	1.325 / 20.630	0.282 / 45.401	0.419 / -165.379
3.000GHz	0.618 / 120.809	1.243 / 17.173	0.300 / 43.327	0.447 / -170.079

V_{CE} = 8V, I_{CC} = 15mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.528 / -156.058	8.803 / 91.856	0.062 / 50.663	0.307 / -114.015
600.0MHz	0.530 / -170.388	6.037 / 82.220	0.080 / 54.954	0.272 / -127.889
800.0MHz	0.533 / -179.918	4.599 / 74.580	0.099 / 55.837	0.258 / -137.233
1.000GHz	0.533 / 172.411	3.701 / 67.731	0.117 / 57.749	0.263 / -145.078
1.200GHz	0.534 / 165.834	3.118 / 62.218	0.134 / 57.512	0.267 / -146.129
1.400GHz	0.537 / 159.524	2.698 / 55.888	0.155 / 56.105	0.289 / -151.740
1.600GHz	0.546 / 153.706	2.380 / 50.797	0.178 / 55.450	0.301 / -154.625
1.800GHz	0.551 / 147.932	2.139 / 45.472	0.194 / 54.599	0.313 / -156.465
2.000GHz	0.560 / 143.318	1.935 / 40.759	0.214 / 52.438	0.329 / -160.163
2.200GHz	0.570 / 137.818	1.778 / 35.874	0.234 / 50.631	0.346 / -163.651
2.400GHz	0.577 / 133.465	1.636 / 31.649	0.253 / 48.940	0.365 / -166.584
2.600GHz	0.588 / 128.922	1.525 / 26.971	0.272 / 46.370	0.381 / -170.577
2.800GHz	0.596 / 123.288	1.418 / 22.768	0.293 / 44.220	0.396 / -171.048
3.000GHz	0.603 / 119.193	1.337 / 19.338	0.308 / 42.273	0.423 / -175.421

V_{CE} = 8V, I_{CC} = 20mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.523 / -161.730	9.114 / 90.424	0.059 / 54.927	0.287 / -122.732
600.0MHz	0.525 / -174.322	6.229 / 81.477	0.080 / 57.803	0.266 / -135.838
800.0MHz	0.529 / 177.217	4.742 / 74.196	0.100 / 60.615	0.257 / -144.488
1.000GHz	0.530 / 169.815	3.811 / 67.701	0.120 / 59.805	0.265 / -151.663
1.200GHz	0.529 / 163.581	3.212 / 62.353	0.140 / 59.696	0.268 / -152.126
1.400GHz	0.535 / 157.365	2.778 / 56.277	0.160 / 57.936	0.290 / -157.620
1.600GHz	0.543 / 152.124	2.451 / 51.342	0.180 / 56.466	0.299 / -160.200
1.800GHz	0.549 / 146.368	2.202 / 46.170	0.201 / 54.397	0.311 / -161.662
2.000GHz	0.556 / 141.805	1.993 / 41.573	0.220 / 52.771	0.325 / -164.512
2.200GHz	0.566 / 136.513	1.833 / 36.831	0.239 / 50.801	0.343 / -167.839
2.400GHz	0.570 / 132.164	1.687 / 32.684	0.259 / 48.449	0.359 / -170.602
2.600GHz	0.582 / 127.941	1.573 / 28.071	0.279 / 46.114	0.376 / -174.480
2.800GHz	0.589 / 122.361	1.466 / 23.981	0.296 / 43.881	0.387 / -174.524
3.000GHz	0.596 / 118.120	1.382 / 20.555	0.314 / 41.562	0.413 / -178.682

V_{CE} = 8V, I_{CC} = 25mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.518 / -165.450	9.297 / 89.546	0.062 / 56.986	0.280 / -127.678
600.0MHz	0.523 / -176.457	6.340 / 80.977	0.080 / 60.191	0.264 / -140.607
800.0MHz	0.527 / 175.061	4.823 / 73.979	0.101 / 60.997	0.258 / -149.050
1.000GHz	0.529 / 168.481	3.873 / 67.618	0.121 / 61.447	0.267 / -155.742
1.200GHz	0.528 / 162.301	3.264 / 62.463	0.142 / 61.051	0.273 / -156.031
1.400GHz	0.532 / 156.032	2.823 / 56.474	0.163 / 58.899	0.291 / -160.798
1.600GHz	0.542 / 150.806	2.490 / 51.621	0.185 / 57.159	0.299 / -162.975
1.800GHz	0.545 / 145.245	2.239 / 46.599	0.204 / 55.309	0.313 / -164.541
2.000GHz	0.554 / 140.922	2.028 / 42.023	0.223 / 53.097	0.325 / -167.476
2.200GHz	0.563 / 135.528	1.864 / 37.383	0.245 / 50.869	0.341 / -170.420
2.400GHz	0.568 / 131.317	1.716 / 33.270	0.263 / 48.762	0.358 / -173.020
2.600GHz	0.581 / 127.044	1.602 / 28.699	0.282 / 46.440	0.373 / -176.664
2.800GHz	0.586 / 121.583	1.493 / 24.560	0.300 / 43.552	0.383 / -176.783
3.000GHz	0.590 / 117.381	1.406 / 21.250	0.318 / 41.643	0.408 / 179.430

V_{CE} = 8V, I_{CC} = 30mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.511 / -167.915	9.412 / 88.921	0.056 / 60.387	0.278 / -131.496
600.0MHz	0.520 / -178.357	6.411 / 80.611	0.078 / 62.336	0.266 / -143.804
800.0MHz	0.528 / 173.840	4.875 / 73.782	0.101 / 61.911	0.259 / -151.852
1.000GHz	0.527 / 167.112	3.916 / 67.627	0.121 / 62.714	0.271 / -158.031
1.200GHz	0.530 / 161.271	3.298 / 62.523	0.143 / 61.981	0.272 / -158.098
1.400GHz	0.533 / 155.358	2.852 / 56.613	0.165 / 59.530	0.292 / -163.124
1.600GHz	0.541 / 150.001	2.518 / 51.831	0.187 / 57.142	0.301 / -165.320
1.800GHz	0.545 / 144.478	2.260 / 46.814	0.206 / 55.569	0.313 / -166.694
2.000GHz	0.552 / 140.159	2.048 / 42.287	0.226 / 53.474	0.326 / -169.193
2.200GHz	0.561 / 134.902	1.885 / 37.717	0.247 / 51.038	0.341 / -172.432
2.400GHz	0.566 / 130.728	1.734 / 33.668	0.265 / 48.736	0.357 / -174.862
2.600GHz	0.578 / 126.579	1.620 / 29.181	0.284 / 46.173	0.371 / -178.547
2.800GHz	0.584 / 120.977	1.509 / 25.102	0.302 / 43.576	0.382 / -178.447
3.000GHz	0.591 / 116.813	1.425 / 21.685	0.318 / 41.756	0.407 / 177.873

V_{CE} = 8V, I_{CC} = 35mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.512 / -169.735	9.480 / 88.465	0.054 / 61.465	0.275 / -134.229
600.0MHz	0.520 / -179.620	6.455 / 80.344	0.079 / 63.701	0.264 / -145.779
800.0MHz	0.529 / 172.928	4.905 / 73.627	0.101 / 64.437	0.261 / -153.776
1.000GHz	0.529 / 166.368	3.937 / 67.542	0.122 / 63.668	0.272 / -160.086
1.200GHz	0.530 / 160.446	3.317 / 62.547	0.145 / 62.788	0.273 / -159.805
1.400GHz	0.534 / 154.493	2.869 / 56.644	0.165 / 59.938	0.293 / -164.242
1.600GHz	0.540 / 149.520	2.530 / 51.918	0.186 / 58.669	0.302 / -166.537
1.800GHz	0.545 / 144.020	2.277 / 46.960	0.209 / 55.899	0.312 / -167.960
2.000GHz	0.553 / 139.715	2.061 / 42.488	0.228 / 53.505	0.325 / -170.400
2.200GHz	0.561 / 134.576	1.894 / 37.899	0.248 / 50.837	0.341 / -173.416
2.400GHz	0.566 / 130.201	1.745 / 33.891	0.269 / 48.878	0.356 / -175.951
2.600GHz	0.577 / 125.875	1.629 / 29.421	0.288 / 46.224	0.371 / -179.320
2.800GHz	0.583 / 120.628	1.520 / 25.306	0.306 / 43.517	0.381 / -179.330
3.000GHz	0.590 / 116.491	1.433 / 22.050	0.321 / 41.222	0.406 / 176.728

V_{CE} = 8V, I_{CC} = 40mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.514 / -170.855	9.514 / 88.138	0.058 / 65.043	0.274 / -136.767
600.0MHz	0.520 / 179.284	6.477 / 80.149	0.078 / 65.848	0.263 / -147.710
800.0MHz	0.528 / 171.852	4.919 / 73.518	0.101 / 65.641	0.260 / -155.191
1.000GHz	0.530 / 165.712	3.950 / 67.484	0.123 / 63.402	0.274 / -161.178
1.200GHz	0.529 / 159.782	3.328 / 62.491	0.146 / 62.592	0.275 / -160.957
1.400GHz	0.535 / 154.018	2.875 / 56.668	0.166 / 60.419	0.294 / -165.529
1.600GHz	0.541 / 148.774	2.540 / 51.979	0.188 / 57.877	0.303 / -167.334
1.800GHz	0.546 / 143.521	2.283 / 47.041	0.209 / 55.736	0.311 / -169.052
2.000GHz	0.553 / 139.223	2.066 / 42.602	0.229 / 53.575	0.326 / -171.403
2.200GHz	0.561 / 134.019	1.902 / 38.022	0.249 / 50.929	0.340 / -174.281
2.400GHz	0.566 / 129.904	1.752 / 34.027	0.270 / 48.628	0.355 / -176.624
2.600GHz	0.577 / 125.593	1.635 / 29.461	0.285 / 45.921	0.371 / 179.943
2.800GHz	0.583 / 120.184	1.524 / 25.473	0.306 / 43.357	0.380 / -179.586
3.000GHz	0.588 / 116.193	1.438 / 22.156	0.322 / 40.976	0.405 / 176.470

V_{CE} = 8V, I_{CC} = 50mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.515 / -173.408	9.538 / 87.668	0.056 / 67.374	0.274 / -139.119
600.0MHz	0.526 / 177.687	6.486 / 79.852	0.079 / 66.591	0.262 / -148.776
800.0MHz	0.532 / 170.844	4.925 / 73.331	0.102 / 66.631	0.260 / -156.445
1.000GHz	0.533 / 164.835	3.952 / 67.346	0.124 / 64.574	0.273 / -162.492
1.200GHz	0.532 / 158.909	3.330 / 62.395	0.146 / 63.304	0.275 / -162.031
1.400GHz	0.537 / 153.466	2.880 / 56.570	0.168 / 61.087	0.293 / -166.723
1.600GHz	0.545 / 148.325	2.541 / 51.935	0.189 / 58.683	0.302 / -168.405
1.800GHz	0.548 / 142.808	2.285 / 47.014	0.211 / 56.151	0.314 / -169.704
2.000GHz	0.556 / 138.522	2.070 / 42.590	0.232 / 53.963	0.326 / -172.310
2.200GHz	0.564 / 133.481	1.903 / 38.027	0.252 / 51.305	0.340 / -175.079
2.400GHz	0.568 / 129.396	1.752 / 34.038	0.271 / 48.817	0.355 / -177.331
2.600GHz	0.580 / 125.244	1.636 / 29.600	0.290 / 46.456	0.371 / 179.136
2.800GHz	0.585 / 119.748	1.527 / 25.482	0.307 / 43.500	0.380 / 179.281
3.000GHz	0.588 / 115.719	1.443 / 22.185	0.325 / 41.122	0.404 / 175.772

V_{CE} = 8V, I_{CC} = 60mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.519 / -174.776	9.501 / 87.355	0.054 / 67.934	0.270 / -139.289
600.0MHz	0.527 / 176.547	6.457 / 79.621	0.076 / 68.450	0.262 / -149.799
800.0MHz	0.535 / 169.898	4.905 / 73.121	0.102 / 66.004	0.260 / -157.488
1.000GHz	0.537 / 164.107	3.936 / 67.120	0.124 / 65.886	0.272 / -163.009
1.200GHz	0.535 / 158.470	3.317 / 62.269	0.146 / 64.622	0.272 / -162.520
1.400GHz	0.540 / 152.781	2.867 / 56.426	0.168 / 61.681	0.293 / -166.766
1.600GHz	0.548 / 147.767	2.530 / 51.758	0.189 / 58.892	0.302 / -168.683
1.800GHz	0.552 / 142.451	2.273 / 46.832	0.211 / 56.510	0.312 / -170.090
2.000GHz	0.559 / 138.153	2.059 / 42.403	0.232 / 53.957	0.326 / -172.492
2.200GHz	0.566 / 133.066	1.895 / 37.869	0.252 / 51.144	0.339 / -175.273
2.400GHz	0.571 / 128.921	1.745 / 33.896	0.273 / 49.194	0.355 / -177.726
2.600GHz	0.581 / 124.782	1.631 / 29.431	0.290 / 46.260	0.370 / 178.856
2.800GHz	0.587 / 119.158	1.522 / 25.399	0.309 / 43.610	0.378 / 179.082
3.000GHz	0.593 / 115.303	1.435 / 21.965	0.325 / 40.916	0.401 / 175.647