

**NPN Planer RF TRANSISTOR**

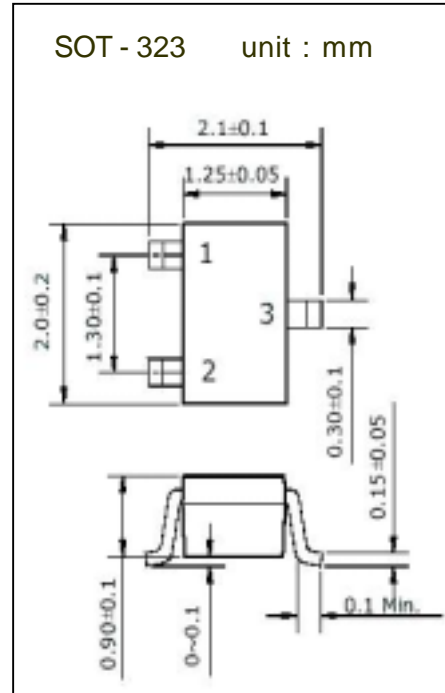
**DESCRIPTION**

The TARF1510U 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 SOT323 package

**FEATURES**

- o Low Noise Figure
  - N.F = 1.5dB TYP. @ f=2GHz,  $V_{CE}=3V$ ,  $I_c=7mA$
  - N.F = 1.7dB TYP. @ f=2GHz,  $V_{CE}=1V$ ,  $I_c=3mA$
- o High Gain
  - MAG = 9dB TYP. @ f=2GHz,  $V_{CE}=3V$ ,  $I_c=20mA$
  - MAG = 6dB TYP. @ f=2GHz,  $V_{CE}=1V$ ,  $I_c=3mA$
- o High Transition Frequency
  - $f_T = 7GHz$  TYP. @ f=2GHz,  $V_{CE}=3V$ ,  $I_c=20mA$
  - $f_T = 4GHz$  TYP. @ f=2GHz,  $V_{CE}=1V$ ,  $I_c=3mA$



**PIN CONFIGURATION**

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

**MARKING : AK1**

**MAXIMUM RATINGS**

SYMBOL	PARAMETER	CONDITION	VALUE	Unit
$V_{CBO}$	Collector-Base Voltage	Open Emitter	15	V
$V_{CEO}$	Collector-Emitter Voltage	Open Base	5.5	V
$V_{EBO}$	Emitter-Base Voltage	Open Collector	2.5	V
$I_c$	Collector Current (DC)		100	mA
$P_T$	Total Power Dissipation	$T_s = 60$	150	mW
$T_{STG}$	Storage Temperature		-65 ~ 150	
$T_J$	Operating Junction Temperature		150	

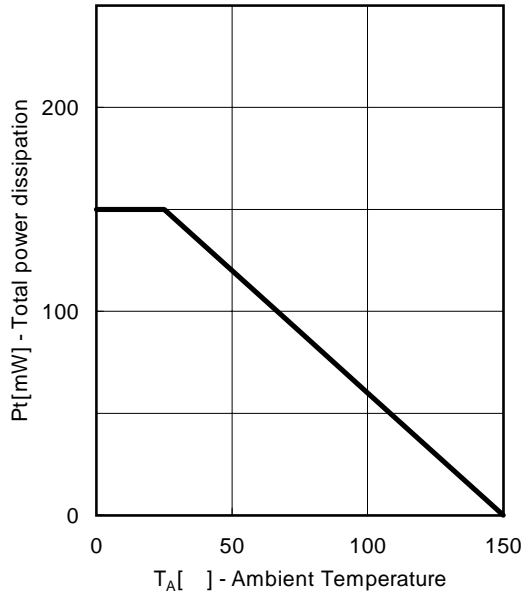
**Electrical Characteristics** (  $T_A = 25$  )

SYMBOL	PARAMETER	CONDITION	VALUE			Unit
			min	typ	max	
V <sub>CBO</sub>	Collector-Base Voltage	I <sub>CE</sub> = 100uA, I <sub>E</sub> = 0	10	25		V
V <sub>CEO</sub>	Collector-Emitter Voltage	I <sub>CE</sub> = 100uA, I <sub>B</sub> = 0	5	5.5		V
I <sub>CBO</sub>	Collector-Cut-off current	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0			300	n A
I <sub>EBO</sub>	Emitter-Cut-off current	V <sub>EB</sub> = 1V, I <sub>C</sub> = 0			100	n A
h <sub>fe</sub>	D.C current Gain	V <sub>CE</sub> = 3V, I <sub>c</sub> = 15mA	100	150		
f <sub>T</sub>	Transition Frequency	V <sub>CE</sub> = 3V, I <sub>c</sub> = 20mA		7		GHz
C <sub>CB</sub>	Collector-Base Capacitance	V <sub>CB</sub> = 10V, f = 1MHz		0.8		pF

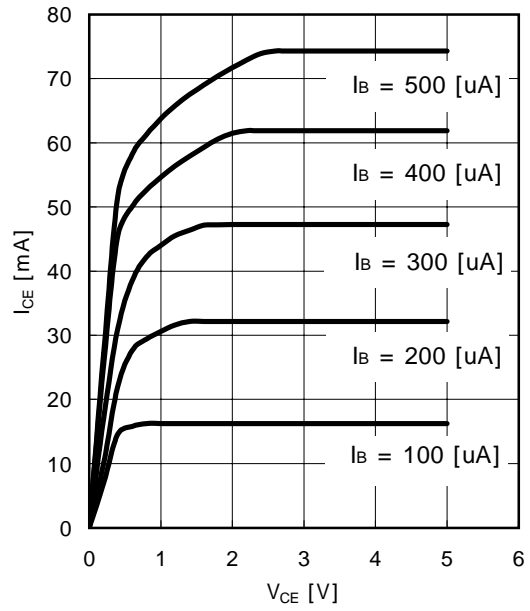
**Performance Characteristics**

SYMBOL	PARAMETER	CONDITION	VALUE			Unit
			min	typ	max	
[S <sub>21</sub> ] <sup>2</sup>	Insertion Power Gain	V <sub>CE</sub> =3V, I <sub>c</sub> =7mA, f=1GHz		8.5		dB
		V <sub>CE</sub> =3V, I <sub>c</sub> =20mA, f=1GHz		10		
		V <sub>CE</sub> =3V, I <sub>c</sub> =7mA, f=2GHz		3		
		V <sub>CE</sub> =3V, I <sub>c</sub> =20mA, f=2GHz		4.5		
MAG	Maximum Available Gain	V <sub>CE</sub> =3V, I <sub>c</sub> =7mA, f=2GHz		8.5		dB
		V <sub>CE</sub> =3V, I <sub>c</sub> =20mA, f=2GHz		9		
		V <sub>CE</sub> =1V, I <sub>c</sub> =3mA, f=2GHz		6		
		V <sub>CE</sub> =1V, I <sub>c</sub> =10mA, f=2GHz		6.5		
NF <sub>min</sub>	Minium Noise Figure	V <sub>CE</sub> =1V, I <sub>c</sub> =3mA, f=2GHz		1.7		dB
		V <sub>CE</sub> =3V, I <sub>c</sub> =7mA, f=2GHz		1.5		
r <sub>n</sub>	Noise Resistance	V <sub>CE</sub> =1V, I <sub>c</sub> =3mA, f=2GHz		0.06		
		V <sub>CE</sub> =3V, I <sub>c</sub> =7mA, f=2GHz		0.07		
G <sub>A</sub>	Associated Gain	V <sub>CE</sub> =3V, I <sub>c</sub> =7mA, f=2GHz		7		dB
		V <sub>CE</sub> =3V, I <sub>c</sub> =20mA, f=2GHz		7.5		
		V <sub>CE</sub> =1V, I <sub>c</sub> =3mA, f=2GHz		5.5		
		V <sub>CE</sub> =1V, I <sub>c</sub> =10mA, f=2GHz		6		

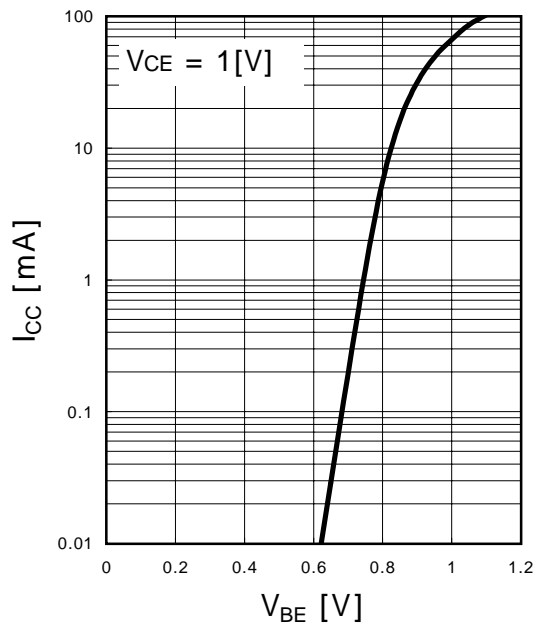
**Total power dissipation  $P_t = f(T_A)$**   
 ( $T_A = 25$  )



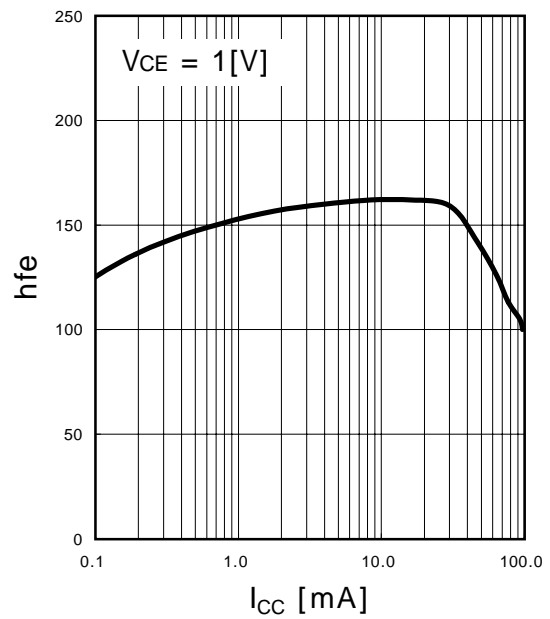
**ICE vs. VCE**



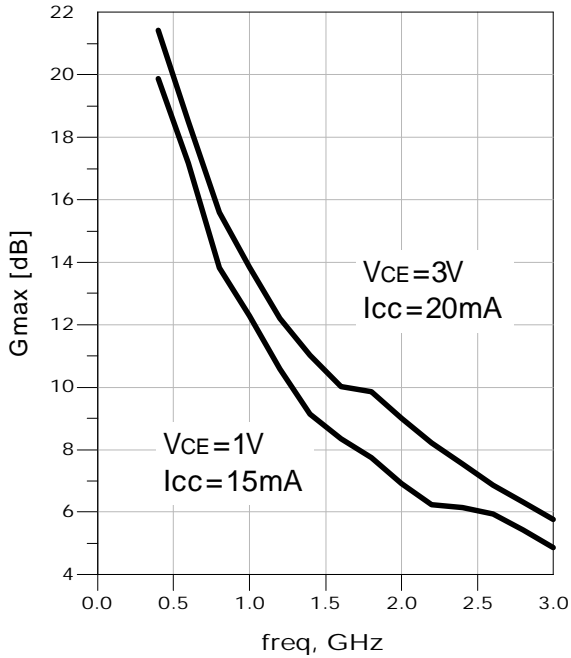
**ICC vs. VBE**



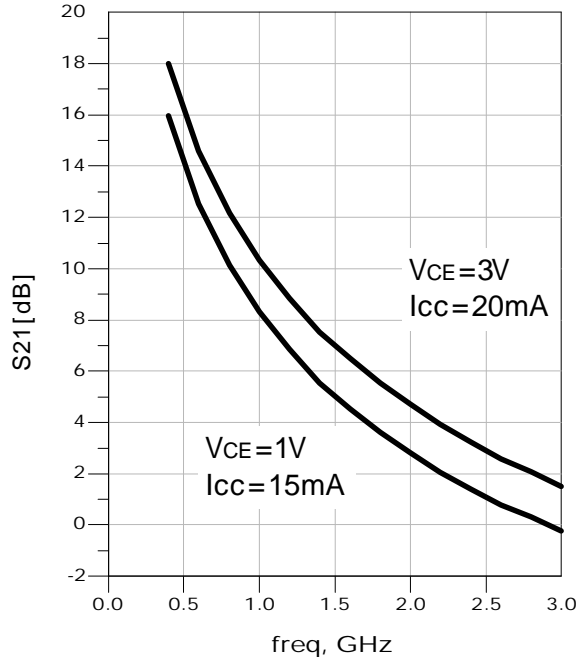
**hfe vs. ICC**



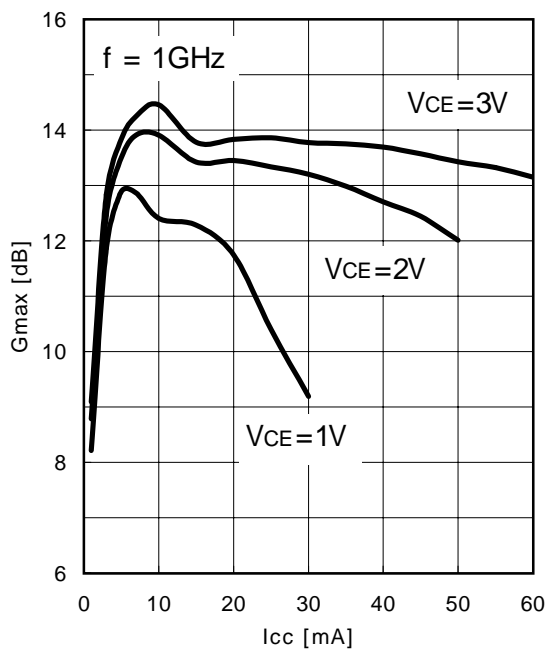
Power Gain : Gmax vs. Frequency



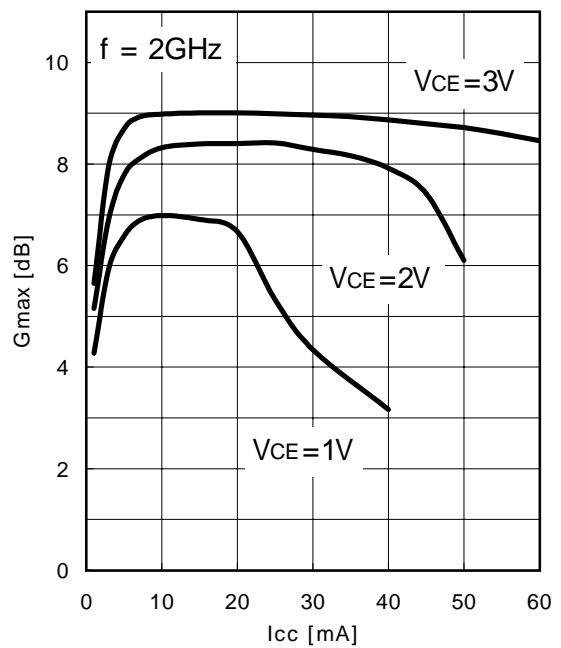
Power Gain : S21 vs. Frequency



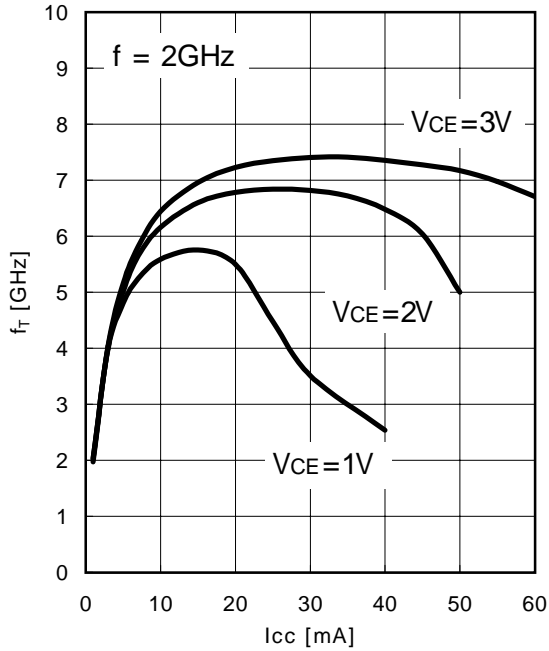
Power Gain : Gmax vs. Icc



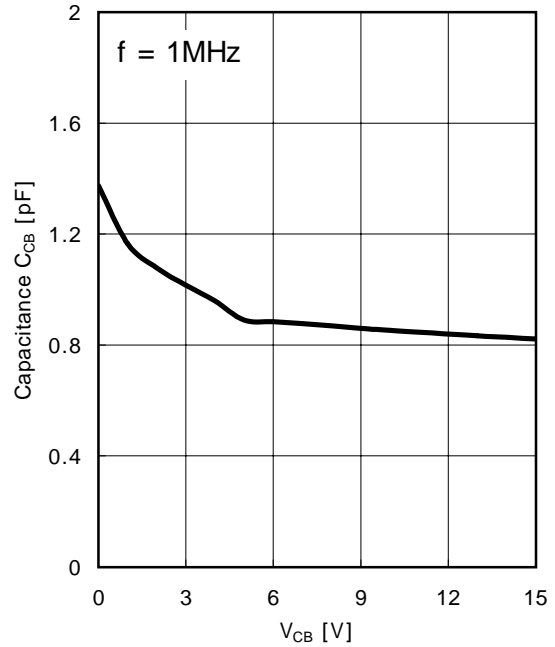
Power Gain : Gmax vs. Icc



Transition Frequency :  $f_T$  vs.  $I_{CC}$

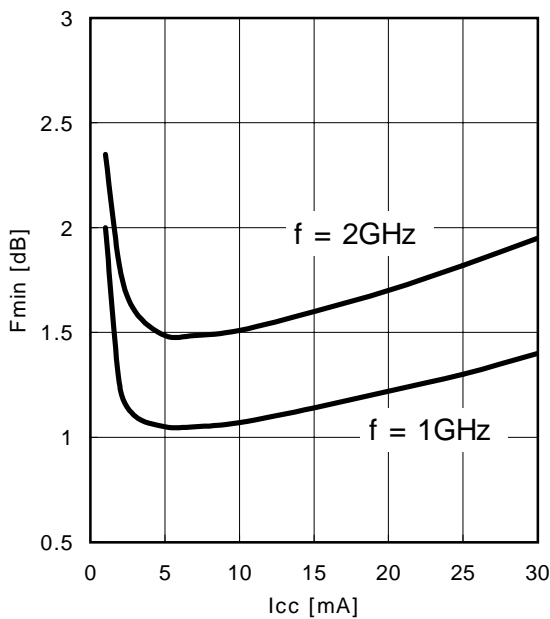


$C_{CB}$  vs.  $V_{CB}$



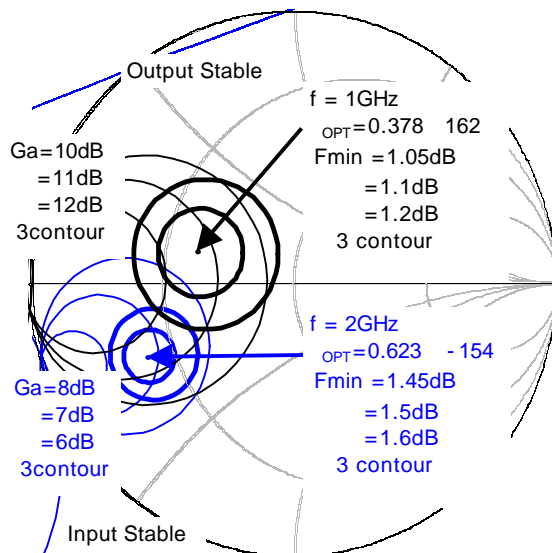
$F_{min}$  vs.  $I_{CC}$

$V_{CE} = 3V$ ,  $I_{CC} = \text{parameter}$ ,  $Z_s = Z_{opt}$



Noise Figure Contours & Constant Gain

$f = 1 GHz, 2GHz$ ,  $V_{CE} = 3V$ ,  $I_{CC} = 7mA$



**Common Emitter S-Parameter Data**

VCE = 3V, ICC = 3mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.671 / -125.266	4.942 / 101.058	0.116 / 29.007	0.529 / -69.259
600.0MHz	0.646 / -147.775	3.512 / 85.715	0.120 / 23.218	0.439 / -81.830
800.0MHz	0.644 / -162.205	2.712 / 73.938	0.118 / 21.968	0.404 / -91.478
1.000GHz	0.659 / -173.312	2.219 / 63.702	0.116 / 23.874	0.395 / -100.009
1.200GHz	0.663 / -179.602	1.878 / 55.972	0.114 / 28.617	0.388 / -108.492
1.400GHz	0.671 / 173.725	1.615 / 48.930	0.117 / 35.073	0.403 / -116.173
1.600GHz	0.683 / 167.379	1.423 / 41.546	0.123 / 41.629	0.423 / -124.057
1.800GHz	0.705 / 161.545	1.273 / 35.986	0.137 / 47.464	0.448 / -131.479
2.000GHz	0.715 / 156.582	1.140 / 30.004	0.154 / 51.740	0.476 / -138.758
2.200GHz	0.719 / 151.397	1.029 / 24.961	0.176 / 54.321	0.504 / -145.517
2.400GHz	0.741 / 145.641	0.936 / 20.726	0.200 / 55.356	0.531 / -151.492
2.600GHz	0.752 / 141.036	0.850 / 16.755	0.226 / 55.028	0.555 / -157.327
2.800GHz	0.761 / 136.090	0.798 / 13.113	0.253 / 53.682	0.584 / -163.022
3.000GHz	0.762 / 130.000	0.736 / 11.040	0.279 / 52.042	0.612 / -167.975

VCE = 3V, ICC = 5mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.640 / -142.034	6.058 / 96.061	0.092 / 31.557	0.420 / -84.001
600.0MHz	0.625 / -160.924	4.196 / 83.291	0.098 / 31.048	0.348 / -97.264
800.0MHz	0.623 / -172.273	3.204 / 73.249	0.102 / 33.458	0.324 / -106.767
1.000GHz	0.639 / 178.453	2.613 / 64.363	0.108 / 37.533	0.320 / -114.686
1.200GHz	0.646 / 173.327	2.200 / 57.437	0.116 / 41.897	0.315 / -122.784
1.400GHz	0.653 / 168.438	1.898 / 51.208	0.127 / 46.204	0.332 / -129.209
1.600GHz	0.668 / 162.225	1.674 / 44.684	0.141 / 49.607	0.352 / -135.867
1.800GHz	0.683 / 157.388	1.502 / 38.931	0.158 / 52.116	0.376 / -142.029
2.000GHz	0.690 / 152.356	1.355 / 33.348	0.177 / 53.478	0.403 / -147.969
2.200GHz	0.694 / 147.726	1.227 / 28.504	0.198 / 54.059	0.430 / -153.432
2.400GHz	0.710 / 143.039	1.127 / 24.095	0.219 / 53.817	0.458 / -158.227
2.600GHz	0.725 / 138.003	1.031 / 19.922	0.243 / 52.830	0.482 / -162.934
2.800GHz	0.738 / 133.744	0.966 / 16.215	0.266 / 51.337	0.511 / -167.651
3.000GHz	0.744 / 128.383	0.896 / 12.713	0.290 / 49.520	0.540 / -171.739

VCE = 3V, ICC = 7mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.607 / -151.689	6.670 / 93.324	0.079 / 35.238	0.365 / -95.602
600.0MHz	0.619 / -166.942	4.582 / 81.824	0.087 / 37.461	0.308 / -109.337
800.0MHz	0.614 / -177.973	3.488 / 72.854	0.096 / 41.274	0.292 / -118.834
1.000GHz	0.632 / 173.867	2.834 / 64.497	0.107 / 45.058	0.292 / -126.162
1.200GHz	0.642 / 170.045	2.392 / 58.288	0.120 / 48.634	0.288 / -134.110
1.400GHz	0.645 / 165.070	2.053 / 52.443	0.135 / 51.472	0.305 / -139.660
1.600GHz	0.657 / 159.487	1.821 / 46.350	0.151 / 53.045	0.325 / -145.275
1.800GHz	0.675 / 154.445	1.629 / 40.858	0.170 / 54.151	0.347 / -150.494
2.000GHz	0.682 / 150.162	1.476 / 35.570	0.189 / 54.267	0.372 / -155.504
2.200GHz	0.684 / 146.111	1.339 / 30.890	0.210 / 53.971	0.398 / -160.080
2.400GHz	0.701 / 141.192	1.231 / 26.523	0.231 / 53.172	0.424 / -164.053
2.600GHz	0.708 / 136.661	1.135 / 22.386	0.253 / 51.774	0.447 / -167.951
2.800GHz	0.719 / 132.392	1.069 / 17.859	0.275 / 50.012	0.475 / -171.950
3.000GHz	0.727 / 127.144	0.996 / 15.090	0.297 / 48.192	0.503 / -175.429

VCE = 3V, ICC = 10mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.598 / -159.655	7.235 / 90.864	0.069 / 40.713	0.324 / -109.096
600.0MHz	0.611 / -173.041	4.919 / 80.582	0.081 / 45.095	0.284 / -123.094
800.0MHz	0.608 / 176.972	3.735 / 72.517	0.094 / 49.051	0.276 / -132.079
1.000GHz	0.633 / 170.058	3.034 / 64.682	0.109 / 51.843	0.279 / -138.623
1.200GHz	0.640 / 166.359	2.551 / 59.123	0.125 / 54.071	0.277 / -146.327
1.400GHz	0.641 / 161.753	2.194 / 53.483	0.143 / 55.327	0.293 / -150.866
1.600GHz	0.649 / 157.052	1.946 / 47.704	0.161 / 55.798	0.311 / -155.616
1.800GHz	0.667 / 152.703	1.745 / 42.701	0.181 / 55.682	0.332 / -159.873
2.000GHz	0.669 / 147.840	1.583 / 37.513	0.200 / 54.957	0.355 / -163.990
2.200GHz	0.673 / 144.021	1.448 / 32.910	0.221 / 53.997	0.378 / -167.686
2.400GHz	0.687 / 139.438	1.330 / 28.596	0.241 / 52.630	0.401 / -170.847
2.600GHz	0.705 / 135.258	1.233 / 24.518	0.262 / 51.003	0.422 / -173.960
2.800GHz	0.709 / 130.687	1.158 / 20.456	0.284 / 48.966	0.448 / -177.305
3.000GHz	0.712 / 126.219	1.077 / 16.953	0.304 / 47.008	0.474 / -179.899

V<sub>CE</sub> = 3V, I<sub>CC</sub> = 15mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.597 / -168.283	7.719 / 88.545	0.061 / 47.974	0.301 / -124.111
600.0MHz	0.610 / -179.174	5.210 / 79.522	0.077 / 52.902	0.278 / -137.303
800.0MHz	0.606 / 172.816	3.948 / 72.097	0.094 / 56.003	0.276 / -145.191
1.000GHz	0.622 / 166.175	3.208 / 65.005	0.112 / 57.675	0.281 / -150.831
1.200GHz	0.632 / 163.475	2.703 / 59.809	0.131 / 58.308	0.280 / -158.262
1.400GHz	0.639 / 159.373	2.322 / 54.697	0.151 / 58.465	0.295 / -161.861
1.600GHz	0.647 / 154.553	2.053 / 49.017	0.170 / 57.839	0.312 / -165.775
1.800GHz	0.664 / 150.281	1.845 / 44.393	0.190 / 56.915	0.330 / -169.305
2.000GHz	0.662 / 146.308	1.676 / 39.342	0.210 / 55.436	0.350 / -172.698
2.200GHz	0.665 / 142.661	1.530 / 34.798	0.231 / 53.979	0.370 / -175.663
2.400GHz	0.682 / 137.902	1.408 / 30.864	0.251 / 52.252	0.390 / -178.166
2.600GHz	0.695 / 133.636	1.307 / 26.843	0.271 / 50.288	0.408 / 179.385
2.800GHz	0.702 / 130.047	1.226 / 22.624	0.291 / 48.101	0.432 / 176.713
3.000GHz	0.704 / 124.848	1.157 / 19.035	0.311 / 45.982	0.456 / 174.490

V<sub>CE</sub> = 3V, I<sub>CC</sub> = 20mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.605 / -172.109	7.948 / 87.231	0.057 / 53.145	0.296 / -133.333
600.0MHz	0.606 / 177.251	5.359 / 78.941	0.076 / 57.715	0.281 / -155.411
800.0MHz	0.611 / 170.029	4.056 / 71.934	0.094 / 59.784	0.283 / -152.555
1.000GHz	0.627 / 164.366	3.290 / 65.036	0.114 / 60.505	0.288 / -157.616
1.200GHz	0.634 / 162.005	2.768 / 60.001	0.134 / 60.523	0.288 / -164.815
1.400GHz	0.643 / 157.878	2.380 / 55.005	0.155 / 60.075	0.302 / -168.027
1.600GHz	0.647 / 152.671	2.112 / 49.743	0.175 / 58.909	0.318 / -171.515
1.800GHz	0.666 / 148.899	1.893 / 45.314	0.196 / 57.504	0.335 / -174.707
2.000GHz	0.661 / 144.870	1.723 / 40.366	0.216 / 55.763	0.353 / -177.769
2.200GHz	0.664 / 140.982	1.570 / 36.068	0.237 / 53.963	0.372 / 179.593
2.400GHz	0.679 / 137.052	1.452 / 32.194	0.256 / 52.021	0.390 / 177.402
2.600GHz	0.691 / 132.920	1.344 / 27.963	0.276 / 49.947	0.405 / 175.270
2.800GHz	0.690 / 128.950	1.269 / 23.939	0.296 / 47.567	0.427 / 172.892
3.000GHz	0.700 / 124.278	1.188 / 20.707	0.315 / 45.408	0.449 / 170.987

V<sub>CE</sub> = 3V, I<sub>CC</sub> = 25mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.600 / -176.624	8.072 / 86.407	0.056 / 56.828	0.296 / -139.642
600.0MHz	0.608 / 175.407	5.432 / 78.526	0.075 / 60.696	0.286 / -150.662
800.0MHz	0.611 / 168.609	4.107 / 71.783	0.095 / 62.292	0.290 / -157.198
1.000GHz	0.632 / 163.178	3.336 / 65.060	0.116 / 62.376	0.296 / -161.829
1.200GHz	0.637 / 160.778	2.803 / 60.199	0.137 / 61.920	0.296 / -168.882
1.400GHz	0.641 / 156.442	2.409 / 55.525	0.158 / 61.022	0.309 / -171.835
1.600GHz	0.647 / 152.176	2.136 / 50.147	0.179 / 59.471	0.325 / -175.163
1.800GHz	0.662 / 147.971	1.915 / 45.797	0.200 / 57.841	0.340 / -178.152
2.000GHz	0.664 / 144.511	1.743 / 40.908	0.220 / 55.874	0.357 / 178.948
2.200GHz	0.667 / 140.896	1.595 / 36.675	0.240 / 53.978	0.375 / 176.504
2.400GHz	0.675 / 136.468	1.473 / 32.837	0.260 / 51.887	0.392 / 174.450
2.600GHz	0.697 / 132.473	1.369 / 28.858	0.280 / 49.780	0.406 / 172.491
2.800GHz	0.688 / 128.544	1.289 / 24.799	0.300 / 47.276	0.426 / 170.316
3.000GHz	0.703 / 123.899	1.214 / 21.446	0.318 / 45.091	0.448 / 168.584

V<sub>CE</sub> = 3V, I<sub>CC</sub> = 30mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.600 / -177.212	8.132 / 85.741	0.055 / 59.563	0.298 / -144.017
600.0MHz	0.617 / 173.957	5.461 / 78.155	0.075 / 62.825	0.291 / -154.318
800.0MHz	0.621 / 167.549	4.128 / 71.606	0.096 / 63.893	0.296 / -160.381
1.000GHz	0.632 / 162.000	3.348 / 65.035	0.117 / 63.551	0.302 / -164.772
1.200GHz	0.642 / 159.664	2.819 / 60.254	0.139 / 62.820	0.303 / -171.675
1.400GHz	0.646 / 155.668	2.419 / 55.692	0.160 / 61.651	0.316 / -174.491
1.600GHz	0.651 / 151.331	2.145 / 50.559	0.181 / 59.938	0.330 / -177.643
1.800GHz	0.669 / 147.339	1.927 / 46.046	0.202 / 58.107	0.345 / 179.443
2.000GHz	0.662 / 143.462	1.756 / 41.177	0.223 / 56.042	0.362 / 176.654
2.200GHz	0.662 / 140.006	1.603 / 37.151	0.243 / 53.968	0.378 / 174.288
2.400GHz	0.680 / 135.737	1.479 / 33.376	0.263 / 51.817	0.394 / 172.368
2.600GHz	0.691 / 131.802	1.374 / 29.443	0.282 / 49.553	0.407 / 170.521
2.800GHz	0.701 / 127.957	1.299 / 25.543	0.302 / 47.137	0.427 / 168.428
3.000GHz	0.693 / 123.472	1.224 / 22.070	0.320 / 44.808	0.448 / 166.835

VCE = 3V, ICC = 35mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.610 / -179.547	8.141 / 85.276	0.054 / 61.863	0.300 / -147.321
600.0MHz	0.622 / 172.800	5.451 / 77.908	0.075 / 64.296	0.296 / -156.906
800.0MHz	0.616 / 166.571	4.130 / 71.463	0.097 / 65.045	0.301 / -162.622
1.000GHz	0.632 / 160.851	3.342 / 65.019	0.118 / 64.584	0.307 / -166.796
1.200GHz	0.639 / 158.676	2.817 / 60.427	0.140 / 63.448	0.308 / -173.564
1.400GHz	0.644 / 155.446	2.417 / 55.694	0.162 / 62.104	0.321 / -176.304
1.600GHz	0.651 / 150.764	2.145 / 50.575	0.183 / 60.270	0.335 / -179.387
1.800GHz	0.673 / 147.029	1.927 / 46.308	0.204 / 58.323	0.350 / 177.773
2.000GHz	0.663 / 143.159	1.756 / 41.504	0.225 / 56.118	0.366 / 175.044
2.200GHz	0.667 / 139.636	1.604 / 37.500	0.245 / 53.988	0.382 / 172.764
2.400GHz	0.679 / 135.467	1.482 / 33.654	0.265 / 51.726	0.397 / 170.886
2.600GHz	0.691 / 131.728	1.372 / 29.646	0.284 / 49.470	0.409 / 169.101
2.800GHz	0.693 / 127.451	1.299 / 25.591	0.304 / 46.908	0.429 / 167.098
3.000GHz	0.695 / 122.623	1.229 / 22.510	0.322 / 44.623	0.448 / 165.538

VCE = 3V, ICC = 40mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.608 / 179.557	8.095 / 84.920	0.054 / 62.879	0.302 / -149.841
600.0MHz	0.625 / 172.138	5.430 / 77.677	0.075 / 65.594	0.299 / -158.815
800.0MHz	0.624 / 165.524	4.098 / 71.347	0.097 / 65.883	0.305 / -164.248
1.000GHz	0.643 / 160.254	3.328 / 64.970	0.119 / 65.161	0.311 / -168.330
1.200GHz	0.645 / 157.940	2.804 / 60.412	0.141 / 63.876	0.313 / -175.028
1.400GHz	0.644 / 154.773	2.403 / 55.711	0.163 / 62.478	0.325 / -177.664
1.600GHz	0.656 / 150.432	2.135 / 50.511	0.184 / 60.493	0.339 / 179.342
1.800GHz	0.673 / 147.098	1.920 / 46.216	0.206 / 58.404	0.353 / 176.545
2.000GHz	0.670 / 142.774	1.744 / 41.635	0.226 / 56.203	0.369 / 173.899
2.200GHz	0.668 / 139.485	1.595 / 37.454	0.247 / 53.991	0.384 / 171.635
2.400GHz	0.684 / 134.793	1.474 / 33.788	0.266 / 51.713	0.399 / 169.812
2.600GHz	0.692 / 130.872	1.369 / 29.815	0.286 / 49.399	0.411 / 168.073
2.800GHz	0.696 / 127.316	1.299 / 25.752	0.306 / 46.816	0.430 / 166.075
3.000GHz	0.703 / 122.488	1.220 / 22.600	0.324 / 44.520	0.449 / 164.607

VCE = 3V, ICC = 45mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.614 / 176.745	8.018 / 84.554	0.054 / 64.780	0.304 / -151.832
600.0MHz	0.634 / 170.758	5.369 / 77.463	0.076 / 66.535	0.302 / -160.413
800.0MHz	0.625 / 165.614	4.064 / 71.142	0.098 / 66.574	0.308 / -165.627
1.000GHz	0.647 / 159.462	3.295 / 64.743	0.120 / 65.638	0.315 / -169.504
1.200GHz	0.650 / 157.990	2.776 / 60.126	0.142 / 64.375	0.317 / -176.169
1.400GHz	0.656 / 154.310	2.384 / 55.567	0.164 / 62.656	0.329 / -178.697
1.600GHz	0.664 / 150.089	2.109 / 50.433	0.185 / 60.670	0.342 / 178.336
1.800GHz	0.677 / 146.331	1.899 / 46.215	0.207 / 58.524	0.356 / 175.587
2.000GHz	0.671 / 142.382	1.724 / 41.644	0.228 / 56.216	0.372 / 172.981
2.200GHz	0.673 / 138.764	1.580 / 37.542	0.248 / 53.993	0.387 / 170.775
2.400GHz	0.686 / 134.711	1.460 / 33.683	0.268 / 51.703	0.402 / 168.971
2.600GHz	0.695 / 131.003	1.356 / 29.918	0.287 / 49.339	0.414 / 167.267
2.800GHz	0.701 / 127.509	1.283 / 25.664	0.306 / 46.780	0.432 / 165.343
3.000GHz	0.699 / 121.982	1.209 / 22.697	0.325 / 44.382	0.451 / 163.905

VCE = 3V, ICC = 50mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.625 / 177.774	7.894 / 84.108	0.053 / 65.416	0.305 / -153.611
600.0MHz	0.639 / 170.401	5.290 / 77.142	0.076 / 67.273	0.304 / -161.715
800.0MHz	0.637 / 164.640	4.002 / 70.912	0.098 / 67.235	0.311 / -166.713
1.000GHz	0.650 / 159.673	3.248 / 64.555	0.120 / 66.056	0.317 / -170.514
1.200GHz	0.650 / 157.452	2.732 / 59.999	0.143 / 64.620	0.319 / -177.006
1.400GHz	0.660 / 153.770	2.346 / 55.493	0.165 / 62.968	0.331 / -179.438
1.600GHz	0.663 / 149.633	2.077 / 50.430	0.186 / 60.832	0.345 / 177.619
1.800GHz	0.681 / 146.173	1.870 / 46.079	0.208 / 58.676	0.359 / 174.925
2.000GHz	0.678 / 141.906	1.703 / 41.433	0.229 / 56.326	0.375 / 172.312
2.200GHz	0.681 / 138.278	1.558 / 37.448	0.249 / 54.065	0.389 / 170.130
2.400GHz	0.694 / 134.272	1.439 / 33.642	0.268 / 51.720	0.404 / 168.358
2.600GHz	0.698 / 130.482	1.337 / 29.777	0.288 / 49.318	0.416 / 166.692
2.800GHz	0.705 / 126.860	1.267 / 25.689	0.308 / 46.707	0.433 / 164.760
3.000GHz	0.708 / 121.871	1.195 / 22.566	0.326 / 44.347	0.453 / 163.306



VCE = 2V, ICC = 3mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.667 / -126.710	4.774 / 100.106	0.121 / 28.012	0.518 / -72.840
600.0MHz	0.651 / -148.909	3.389 / 84.931	0.126 / 22.115	0.429 / -85.985
800.0MHz	0.647 / -163.205	2.615 / 73.257	0.124 / 20.654	0.396 / -95.961
1.000GHz	0.662 / -174.097	2.136 / 63.061	0.121 / 22.138	0.387 / -104.514
1.200GHz	0.664 / 179.360	1.805 / 55.371	0.119 / 26.522	0.381 / -113.096
1.400GHz	0.678 / 173.237	1.552 / 48.283	0.121 / 32.435	0.397 / -120.605
1.600GHz	0.688 / 166.827	1.376 / 41.363	0.127 / 38.812	0.418 / -128.275
1.800GHz	0.711 / 161.221	1.225 / 35.369	0.139 / 44.667	0.443 / -135.405
2.000GHz	0.712 / 155.765	1.102 / 29.477	0.155 / 49.074	0.471 / -142.385
2.200GHz	0.721 / 150.690	0.996 / 24.670	0.176 / 51.901	0.499 / -148.860
2.400GHz	0.737 / 144.967	0.904 / 20.488	0.199 / 53.116	0.527 / -154.584
2.600GHz	0.755 / 139.785	0.825 / 16.625	0.224 / 53.077	0.550 / -160.210
2.800GHz	0.761 / 135.122	0.772 / 13.203	0.251 / 51.970	0.579 / -165.647
3.000GHz	0.764 / 129.487	0.716 / 10.866	0.277 / 50.473	0.607 / -170.407

VCE = 2V, ICC = 5mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.623 / -143.482	5.810 / 95.277	0.096 / 30.822	0.413 / -88.363
600.0MHz	0.635 / -162.102	4.008 / 82.397	0.101 / 29.839	0.344 / -102.159
800.0MHz	0.627 / -173.754	3.065 / 72.580	0.106 / 32.223	0.322 / -111.942
1.000GHz	0.646 / 177.006	2.500 / 63.584	0.112 / 35.824	0.320 / -119.737
1.200GHz	0.654 / 172.641	2.109 / 56.905	0.119 / 40.239	0.316 / -127.930
1.400GHz	0.658 / 166.767	1.809 / 50.564	0.130 / 44.448	0.333 / -134.045
1.600GHz	0.665 / 161.243	1.603 / 44.204	0.144 / 47.758	0.353 / -140.398
1.800GHz	0.688 / 156.308	1.438 / 38.655	0.160 / 50.149	0.377 / -146.235
2.000GHz	0.697 / 151.539	1.297 / 32.949	0.178 / 51.573	0.404 / -151.801
2.200GHz	0.700 / 147.200	1.178 / 28.298	0.199 / 52.249	0.431 / -156.992
2.400GHz	0.712 / 142.279	1.081 / 23.631	0.220 / 52.054	0.458 / -161.509
2.600GHz	0.730 / 137.752	0.992 / 19.827	0.243 / 51.237	0.481 / -165.962
2.800GHz	0.732 / 133.176	0.929 / 15.996	0.267 / 49.721	0.510 / -170.474
3.000GHz	0.743 / 127.884	0.863 / 12.932	0.289 / 48.156	0.539 / -174.340

VCE = 2V, ICC = 7mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.613 / -153.337	6.397 / 92.397	0.081 / 34.494	0.359 / -101.045
600.0MHz	0.625 / -169.062	4.381 / 81.084	0.090 / 36.800	0.307 / -115.319
800.0MHz	0.618 / -179.474	3.328 / 72.147	0.099 / 40.550	0.294 / -124.764
1.000GHz	0.640 / 172.147	2.711 / 63.948	0.110 / 44.250	0.295 / -131.909
1.200GHz	0.651 / 168.441	2.285 / 57.817	0.123 / 47.569	0.292 / -139.750
1.400GHz	0.652 / 164.221	1.963 / 51.935	0.138 / 50.192	0.309 / -144.938
1.600GHz	0.667 / 158.241	1.744 / 45.781	0.154 / 51.764	0.329 / -150.287
1.800GHz	0.682 / 153.882	1.561 / 40.602	0.173 / 52.737	0.351 / -155.102
2.000GHz	0.685 / 149.277	1.415 / 35.201	0.192 / 52.825	0.376 / -159.760
2.200GHz	0.689 / 145.042	1.288 / 30.528	0.212 / 52.557	0.401 / -164.004
2.400GHz	0.705 / 140.355	1.178 / 26.220	0.233 / 51.689	0.426 / -167.641
2.600GHz	0.719 / 135.904	1.094 / 21.885	0.254 / 50.428	0.448 / -171.287
2.800GHz	0.725 / 131.578	1.024 / 18.064	0.276 / 48.648	0.475 / -175.090
3.000GHz	0.730 / 126.163	0.952 / 14.881	0.298 / 46.880	0.503 / -178.310

VCE = 2V, ICC = 10mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.622 / -161.537	6.896 / 89.876	0.070 / 40.172	0.324 / -114.758
600.0MHz	0.624 / -175.300	4.676 / 79.988	0.082 / 44.473	0.290 / -128.786
800.0MHz	0.623 / 175.745	3.552 / 71.821	0.096 / 48.288	0.284 / -137.570
1.000GHz	0.643 / 168.016	2.884 / 64.105	0.111 / 51.226	0.287 / -143.835
1.200GHz	0.648 / 165.195	2.429 / 58.459	0.128 / 53.187	0.286 / -151.455
1.400GHz	0.651 / 160.675	2.088 / 53.170	0.146 / 54.454	0.302 / -155.613
1.600GHz	0.659 / 155.726	1.850 / 47.251	0.164 / 54.712	0.320 / -160.036
1.800GHz	0.675 / 151.537	1.660 / 42.241	0.183 / 54.573	0.340 / -164.081
2.000GHz	0.682 / 146.951	1.509 / 37.014	0.203 / 53.785	0.363 / -167.905
2.200GHz	0.680 / 143.413	1.375 / 32.644	0.224 / 52.767	0.385 / -171.379
2.400GHz	0.696 / 138.549	1.269 / 28.495	0.244 / 51.456	0.407 / -174.307
2.600GHz	0.708 / 134.478	1.171 / 24.308	0.264 / 49.836	0.427 / -177.172
2.800GHz	0.719 / 130.251	1.108 / 20.447	0.285 / 47.850	0.452 / 179.642
3.000GHz	0.721 / 125.388	1.035 / 16.962	0.305 / 45.885	0.478 / 177.043

VCE = 2V, ICC = 15mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.608 / -170.664	7.310 / 87.651	0.062 / 47.760	0.307 / -130.150
600.0MHz	0.630 / 179.117	4.931 / 78.763	0.078 / 52.667	0.288 / -142.826
800.0MHz	0.624 / 171.598	3.738 / 71.418	0.096 / 55.548	0.289 / -150.320
1.000GHz	0.644 / 164.256	3.034 / 64.447	0.114 / 56.889	0.294 / -155.612
1.200GHz	0.647 / 162.540	2.555 / 59.058	0.133 / 57.752	0.294 / -162.849
1.400GHz	0.653 / 158.262	2.200 / 54.155	0.153 / 57.780	0.309 / -166.197
1.600GHz	0.662 / 153.112	1.947 / 48.640	0.173 / 57.024	0.325 / -169.911
1.800GHz	0.675 / 149.191	1.747 / 43.880	0.194 / 55.945	0.343 / -173.258
2.000GHz	0.675 / 145.535	1.590 / 38.795	0.214 / 54.566	0.362 / -176.425
2.200GHz	0.683 / 141.651	1.454 / 34.551	0.234 / 53.023	0.381 / -179.204
2.400GHz	0.693 / 137.002	1.339 / 30.596	0.253 / 51.235	0.400 / 178.453
2.600GHz	0.699 / 132.635	1.242 / 26.425	0.274 / 49.288	0.416 / 176.163
2.800GHz	0.709 / 129.226	1.172 / 22.399	0.294 / 47.083	0.439 / 173.607
3.000GHz	0.710 / 124.002	1.105 / 19.317	0.313 / 44.973	0.462 / 171.530

VCE = 2V, ICC = 20mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.619 / -174.278	7.487 / 86.420	0.059 / 52.767	0.306 / -139.379
600.0MHz	0.629 / 175.732	5.032 / 78.167	0.077 / 57.429	0.295 / -150.603
800.0MHz	0.630 / 168.793	3.808 / 71.294	0.096 / 59.444	0.299 / -157.264
1.000GHz	0.651 / 162.814	3.094 / 64.465	0.116 / 59.982	0.304 / -161.997
1.200GHz	0.650 / 160.535	2.605 / 59.562	0.137 / 59.995	0.305 / -168.969
1.400GHz	0.657 / 156.402	2.241 / 54.567	0.158 / 59.446	0.319 / -171.985
1.600GHz	0.665 / 152.167	1.986 / 49.200	0.178 / 58.120	0.334 / -175.323
1.800GHz	0.680 / 148.356	1.787 / 44.750	0.199 / 56.689	0.350 / -178.394
2.000GHz	0.678 / 144.038	1.623 / 39.901	0.219 / 54.844	0.367 / 178.722
2.200GHz	0.680 / 140.196	1.485 / 35.660	0.240 / 53.125	0.385 / 176.200
2.400GHz	0.692 / 135.897	1.371 / 31.732	0.259 / 51.093	0.402 / 174.129
2.600GHz	0.698 / 131.976	1.276 / 27.882	0.279 / 48.957	0.416 / 172.133
2.800GHz	0.696 / 128.203	1.211 / 23.648	0.299 / 46.585	0.437 / 169.858
3.000GHz	0.704 / 123.153	1.135 / 20.257	0.318 / 44.444	0.458 / 168.100

VCE = 2V, ICC = 25mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.623 / -177.961	7.546 / 85.558	0.057 / 56.541	0.309 / -145.558
600.0MHz	0.639 / 173.841	5.067 / 77.730	0.077 / 60.553	0.303 / -155.699
800.0MHz	0.639 / 167.420	3.831 / 71.051	0.097 / 61.871	0.308 / -161.700
1.000GHz	0.652 / 161.919	3.116 / 64.433	0.118 / 61.953	0.314 / -166.067
1.200GHz	0.651 / 159.206	2.621 / 59.514	0.139 / 61.414	0.315 / -172.873
1.400GHz	0.654 / 155.188	2.251 / 54.878	0.161 / 60.447	0.328 / -175.667
1.600GHz	0.670 / 151.147	2.002 / 49.674	0.182 / 58.860	0.342 / -178.837
1.800GHz	0.679 / 147.241	1.797 / 45.149	0.203 / 57.160	0.357 / 178.296
2.000GHz	0.682 / 143.182	1.633 / 40.369	0.223 / 55.071	0.374 / 175.537
2.200GHz	0.676 / 139.380	1.495 / 36.300	0.244 / 53.115	0.390 / 173.177
2.400GHz	0.695 / 135.105	1.382 / 32.474	0.263 / 50.997	0.406 / 171.240
2.600GHz	0.703 / 131.251	1.286 / 28.686	0.283 / 48.787	0.419 / 169.370
2.800GHz	0.705 / 127.268	1.212 / 24.609	0.303 / 46.354	0.438 / 167.279
3.000GHz	0.709 / 122.717	1.141 / 21.284	0.321 / 44.121	0.458 / 165.645

VCE = 2V, ICC = 30mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.632 / -179.347	7.515 / 84.716	0.056 / 59.471	0.313 / -150.021
600.0MHz	0.638 / 172.750	5.042 / 77.400	0.077 / 62.687	0.310 / -159.168
800.0MHz	0.639 / 166.081	3.816 / 70.817	0.098 / 63.516	0.315 / -164.712
1.000GHz	0.657 / 160.895	3.096 / 64.312	0.120 / 63.123	0.321 / -168.839
1.200GHz	0.664 / 158.438	2.604 / 59.542	0.141 / 62.251	0.323 / -175.451
1.400GHz	0.663 / 154.852	2.240 / 54.965	0.163 / 61.083	0.335 / -178.100
1.600GHz	0.671 / 150.483	1.987 / 49.734	0.184 / 59.267	0.349 / 178.831
1.800GHz	0.687 / 146.650	1.786 / 45.503	0.205 / 57.399	0.363 / 176.088
2.000GHz	0.684 / 142.390	1.625 / 40.691	0.226 / 55.210	0.379 / 173.377
2.200GHz	0.683 / 138.904	1.486 / 36.545	0.247 / 53.128	0.395 / 171.103
2.400GHz	0.700 / 134.901	1.376 / 32.855	0.266 / 50.955	0.410 / 169.234
2.600GHz	0.705 / 130.692	1.283 / 28.743	0.286 / 48.631	0.422 / 167.475
2.800GHz	0.711 / 126.859	1.212 / 25.006	0.305 / 46.165	0.440 / 165.468
3.000GHz	0.711 / 122.208	1.144 / 21.527	0.324 / 43.887	0.460 / 163.959

VCE = 1V, ICC = 3mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.663 / -131.972	4.494 / 97.871	0.131 / 26.138	0.489 / -80.392
600.0MHz	0.657 / -153.439	3.164 / 83.069	0.134 / 20.272	0.407 / -94.558
800.0MHz	0.644 / -166.835	2.431 / 71.753	0.132 / 18.863	0.378 / -104.916
1.000GHz	0.661 / -177.391	1.989 / 61.669	0.130 / 20.203	0.372 / -113.539
1.200GHz	0.671 / 177.045	1.685 / 54.107	0.128 / 23.926	0.369 / -122.079
1.400GHz	0.680 / 171.225	1.446 / 47.338	0.129 / 29.137	0.387 / -129.122
1.600GHz	0.695 / 165.021	1.281 / 40.319	0.134 / 34.828	0.408 / -136.270
1.800GHz	0.712 / 159.692	1.145 / 34.389	0.145 / 40.333	0.434 / -142.868
2.000GHz	0.714 / 154.237	1.035 / 28.778	0.159 / 44.644	0.463 / -149.248
2.200GHz	0.725 / 149.251	0.936 / 24.274	0.179 / 47.666	0.491 / -155.169
2.400GHz	0.739 / 143.911	0.855 / 20.282	0.200 / 49.221	0.518 / -160.401
2.600GHz	0.756 / 139.065	0.786 / 16.510	0.224 / 49.499	0.541 / -165.525
2.800GHz	0.762 / 133.920	0.735 / 13.099	0.249 / 48.714	0.570 / -170.546
3.000GHz	0.769 / 128.566	0.687 / 10.717	0.274 / 47.570	0.597 / -174.931

VCE = 1V, ICC = 5mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.642 / -149.249	5.375 / 93.033	0.101 / 28.837	0.393 / -98.667
600.0MHz	0.641 / -165.759	3.697 / 80.913	0.107 / 28.417	0.336 / -113.384
800.0MHz	0.641 / -176.977	2.820 / 71.203	0.111 / 30.781	0.320 / -123.317
1.000GHz	0.655 / 175.044	2.297 / 62.475	0.118 / 34.102	0.320 / -130.827
1.200GHz	0.662 / 170.200	1.940 / 55.830	0.126 / 38.203	0.318 / -138.805
1.400GHz	0.675 / 165.182	1.667 / 49.621	0.137 / 41.953	0.335 / -144.319
1.600GHz	0.682 / 159.476	1.482 / 43.253	0.150 / 44.853	0.356 / -149.875
1.800GHz	0.699 / 154.506	1.329 / 37.803	0.166 / 47.114	0.380 / -155.011
2.000GHz	0.703 / 150.047	1.206 / 32.487	0.184 / 48.352	0.406 / -159.910
2.200GHz	0.704 / 145.850	1.096 / 27.998	0.204 / 48.988	0.431 / -164.436
2.400GHz	0.724 / 140.483	1.009 / 23.733	0.224 / 48.925	0.457 / -168.344
2.600GHz	0.732 / 136.230	0.933 / 19.952	0.246 / 48.166	0.479 / -172.275
2.800GHz	0.743 / 131.515	0.871 / 15.954	0.268 / 46.870	0.507 / -176.278
3.000GHz	0.747 / 126.509	0.814 / 13.343	0.290 / 45.422	0.534 / -179.686

VCE = 1V, ICC = 7mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.632 / -157.766	5.824 / 90.466	0.085 / 32.817	0.352 / -111.976
600.0MHz	0.639 / -172.717	3.961 / 79.693	0.095 / 35.280	0.312 / -126.503
800.0MHz	0.641 / 177.647	3.010 / 70.957	0.104 / 38.962	0.304 / -135.748
1.000GHz	0.657 / 170.059	2.452 / 62.602	0.116 / 42.515	0.307 / -142.344
1.200GHz	0.668 / 166.645	2.072 / 56.643	0.129 / 45.485	0.306 / -150.013
1.400GHz	0.668 / 161.568	1.778 / 50.885	0.144 / 47.964	0.323 / -154.540
1.600GHz	0.681 / 156.479	1.579 / 44.759	0.160 / 49.315	0.343 / -159.189
1.800GHz	0.696 / 151.858	1.421 / 39.729	0.178 / 50.135	0.364 / -163.408
2.000GHz	0.701 / 147.527	1.292 / 34.349	0.197 / 50.137	0.387 / -167.512
2.200GHz	0.703 / 143.311	1.182 / 30.140	0.217 / 49.865	0.411 / -171.228
2.400GHz	0.717 / 138.789	1.086 / 25.941	0.237 / 49.015	0.434 / -174.375
2.600GHz	0.731 / 134.870	1.006 / 21.776	0.257 / 47.810	0.454 / -177.561
2.800GHz	0.732 / 129.958	0.946 / 17.924	0.279 / 46.115	0.480 / 179.098
3.000GHz	0.743 / 125.116	0.883 / 14.966	0.299 / 44.442	0.505 / 176.275

VCE = 1V, ICC = 10mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.647 / -166.760	6.161 / 88.072	0.073 / 38.657	0.329 / -126.495
600.0MHz	0.656 / -178.411	4.162 / 78.372	0.086 / 43.014	0.305 / -139.871
800.0MHz	0.646 / 173.150	3.165 / 70.553	0.100 / 46.956	0.304 / -147.944
1.000GHz	0.665 / 166.350	2.572 / 62.857	0.116 / 49.717	0.309 / -153.550
1.200GHz	0.671 / 163.340	2.176 / 57.330	0.133 / 51.544	0.310 / -160.831
1.400GHz	0.678 / 159.187	1.865 / 51.862	0.151 / 52.599	0.325 / -164.461
1.600GHz	0.681 / 153.670	1.660 / 46.238	0.170 / 52.720	0.342 / -168.365
1.800GHz	0.697 / 149.512	1.490 / 41.291	0.189 / 52.377	0.361 / -171.898
2.000GHz	0.700 / 145.406	1.357 / 36.288	0.209 / 51.589	0.382 / -175.304
2.200GHz	0.700 / 141.109	1.244 / 32.050	0.229 / 50.551	0.402 / -178.348
2.400GHz	0.714 / 136.828	1.146 / 27.905	0.248 / 49.183	0.422 / 179.124
2.600GHz	0.730 / 132.350	1.063 / 23.991	0.269 / 47.590	0.439 / 176.580
2.800GHz	0.729 / 128.308	1.008 / 20.053	0.289 / 45.565	0.463 / 173.804
3.000GHz	0.732 / 123.915	0.950 / 16.919	0.309 / 43.704	0.486 / 171.517

VCE = 1V, Icc = 15mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.644 / -173.606	6.292 / 85.750	0.065 / 46.151	0.325 / -141.732
600.0MHz	0.666 / 176.644	4.233 / 77.219	0.081 / 51.363	0.315 / -152.761
800.0MHz	0.660 / 168.798	3.210 / 70.021	0.099 / 54.304	0.318 / -159.296
1.000GHz	0.683 / 162.919	2.610 / 62.785	0.119 / 55.674	0.324 / -163.945
1.200GHz	0.687 / 159.830	2.204 / 57.709	0.138 / 56.245	0.326 / -170.753
1.400GHz	0.685 / 155.615	1.894 / 52.617	0.159 / 56.227	0.340 / -173.722
1.600GHz	0.696 / 151.362	1.685 / 47.222	0.179 / 55.362	0.355 / -177.064
1.800GHz	0.708 / 147.070	1.518 / 42.628	0.199 / 54.234	0.371 / 179.936
2.000GHz	0.705 / 143.036	1.384 / 37.743	0.219 / 52.692	0.389 / 177.006
2.200GHz	0.708 / 139.064	1.268 / 33.654	0.240 / 51.094	0.406 / 174.471
2.400GHz	0.721 / 134.832	1.173 / 29.800	0.259 / 49.275	0.423 / 172.388
2.600GHz	0.728 / 130.833	1.094 / 25.922	0.279 / 47.322	0.437 / 170.306
2.800GHz	0.729 / 127.086	1.038 / 21.851	0.299 / 45.034	0.458 / 168.007
3.000GHz	0.738 / 121.784	0.974 / 18.836	0.318 / 42.972	0.479 / 166.202

VCE = 1V, Icc = 20mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.685 / -178.661	6.015 / 83.903	0.061 / 51.083	0.330 / -151.690
600.0MHz	0.685 / 172.622	4.038 / 76.068	0.080 / 56.266	0.327 / -160.583
800.0MHz	0.684 / 166.482	3.053 / 69.186	0.100 / 58.198	0.333 / -165.995
1.000GHz	0.703 / 159.543	2.488 / 62.344	0.121 / 58.857	0.339 / -170.013
1.200GHz	0.708 / 157.798	2.096 / 57.297	0.142 / 58.699	0.342 / -176.387
1.400GHz	0.705 / 154.032	1.807 / 52.530	0.164 / 57.914	0.355 / -179.004
1.600GHz	0.715 / 149.680	1.611 / 47.067	0.184 / 56.622	0.369 / 177.976
1.800GHz	0.725 / 145.718	1.453 / 42.581	0.205 / 55.048	0.384 / 175.175
2.000GHz	0.725 / 141.236	1.326 / 37.937	0.226 / 53.144	0.400 / 172.482
2.200GHz	0.725 / 137.551	1.215 / 33.795	0.246 / 51.347	0.416 / 170.189
2.400GHz	0.734 / 133.385	1.129 / 30.284	0.266 / 49.267	0.431 / 168.275
2.600GHz	0.742 / 129.369	1.049 / 26.603	0.285 / 47.169	0.443 / 166.422
2.800GHz	0.743 / 125.395	0.998 / 22.612	0.305 / 44.711	0.462 / 164.314
3.000GHz	0.744 / 120.587	0.945 / 19.350	0.324 / 42.541	0.482 / 162.723

VCE = 1V, Icc = 25mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.734 / 176.489	4.859 / 81.397	0.059 / 54.141	0.337 / -161.006
600.0MHz	0.738 / 169.347	3.260 / 73.624	0.080 / 58.577	0.338 / -167.424
800.0MHz	0.740 / 163.273	2.470 / 66.725	0.101 / 60.231	0.346 / -171.445
1.000GHz	0.754 / 157.581	2.015 / 59.952	0.123 / 60.359	0.354 / -174.670
1.200GHz	0.754 / 155.257	1.703 / 54.862	0.145 / 59.780	0.358 / 179.541
1.400GHz	0.750 / 151.685	1.467 / 50.336	0.167 / 58.721	0.371 / 177.304
1.600GHz	0.758 / 146.741	1.312 / 44.959	0.189 / 57.226	0.385 / 174.518
1.800GHz	0.769 / 143.111	1.186 / 40.267	0.210 / 55.430	0.400 / 171.990
2.000GHz	0.765 / 138.972	1.089 / 35.853	0.231 / 53.328	0.416 / 169.470
2.200GHz	0.761 / 135.575	1.003 / 32.036	0.252 / 51.310	0.432 / 167.269
2.400GHz	0.773 / 131.083	0.932 / 28.569	0.271 / 49.171	0.447 / 165.486
2.600GHz	0.782 / 126.900	0.873 / 25.275	0.291 / 46.900	0.458 / 163.643
2.800GHz	0.777 / 122.969	0.833 / 21.554	0.311 / 44.367	0.477 / 161.602
3.000GHz	0.773 / 118.129	0.796 / 18.652	0.330 / 42.070	0.495 / 160.078

VCE = 1V, Icc = 30mA

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
400.0MHz	0.772 / 173.483	3.909 / 77.822	0.058 / 56.186	0.345 / -166.386
600.0MHz	0.785 / 167.527	2.620 / 69.480	0.080 / 60.561	0.349 / -170.989
800.0MHz	0.785 / 161.854	1.980 / 61.755	0.102 / 61.917	0.358 / -174.068
1.000GHz	0.795 / 156.853	1.614 / 54.425	0.125 / 61.714	0.368 / -176.689
1.200GHz	0.797 / 154.357	1.361 / 48.708	0.148 / 60.959	0.374 / 177.978
1.400GHz	0.800 / 150.376	1.170 / 43.423	0.171 / 59.745	0.389 / 176.013
1.600GHz	0.803 / 145.911	1.042 / 37.712	0.193 / 57.888	0.404 / 173.372
1.800GHz	0.814 / 142.327	0.941 / 33.560	0.215 / 55.924	0.421 / 170.879
2.000GHz	0.809 / 137.897	0.864 / 29.184	0.237 / 53.702	0.438 / 168.339
2.200GHz	0.805 / 134.031	0.789 / 25.360	0.258 / 51.500	0.455 / 166.139
2.400GHz	0.813 / 129.561	0.733 / 22.577	0.278 / 49.211	0.470 / 164.264
2.600GHz	0.819 / 125.541	0.683 / 19.702	0.298 / 46.799	0.482 / 162.329
2.800GHz	0.818 / 121.032	0.652 / 17.039	0.319 / 44.164	0.501 / 160.150
3.000GHz	0.820 / 116.957	0.626 / 15.453	0.337 / 41.777	0.520 / 158.485