

2SC5907

Silicon NPN Epitaxial
VHF/UHF wide band amplifier

HITACHI

ADE-208-1603 (Z)

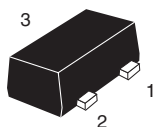
Rev.0
Oct. 2002

Features

- Super compact package: MFPAK (1.4 x 0.8 x 0.59 mm)

Outline

MFPAK



1. Emitter
2. Base
3. Collector

Note: Marking is "WK-".

Absolute Maximum Ratings

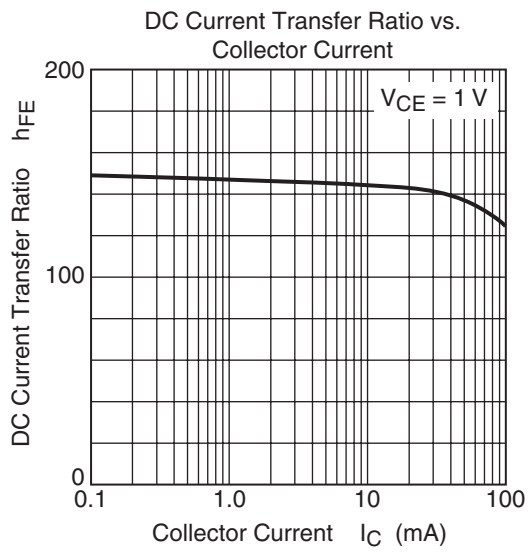
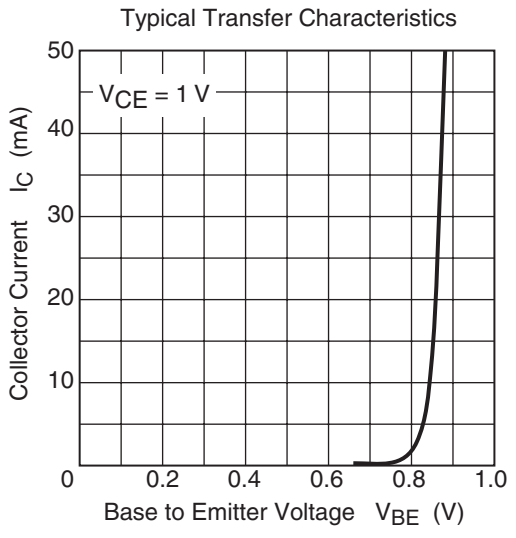
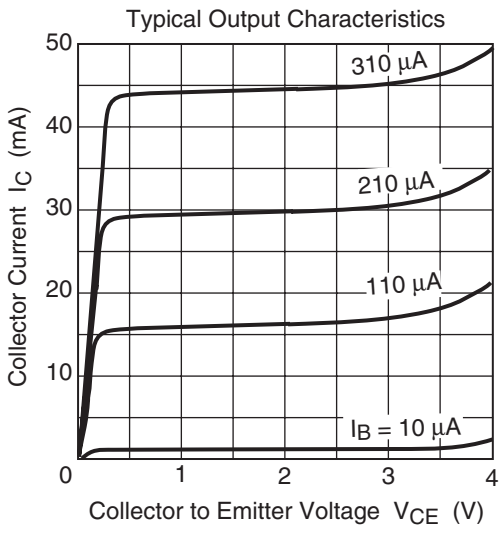
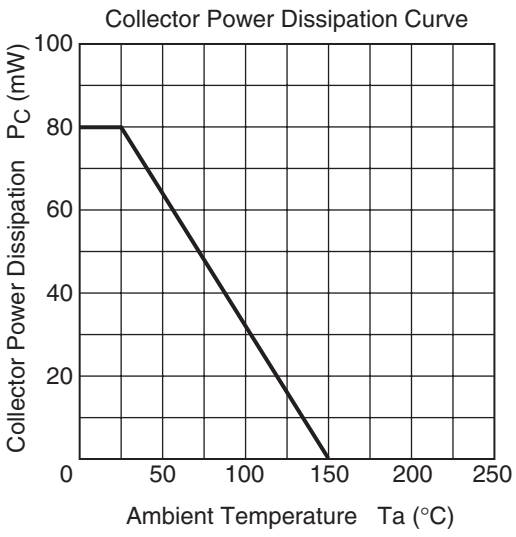
(Ta = 25°C)

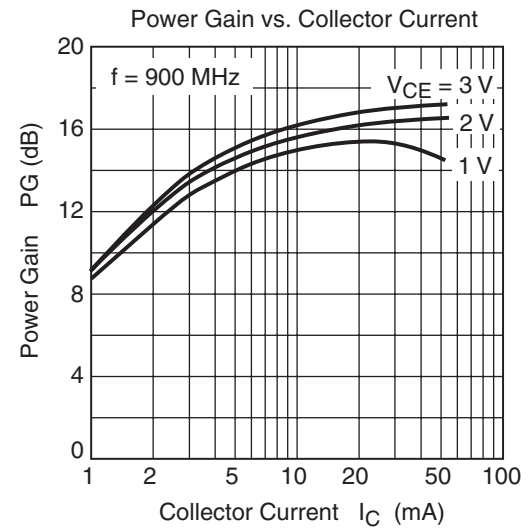
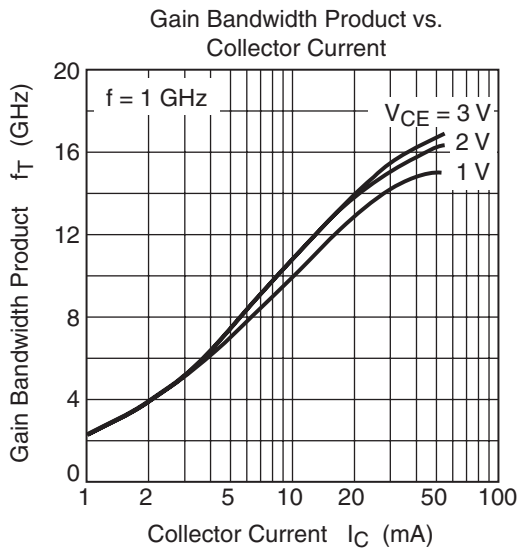
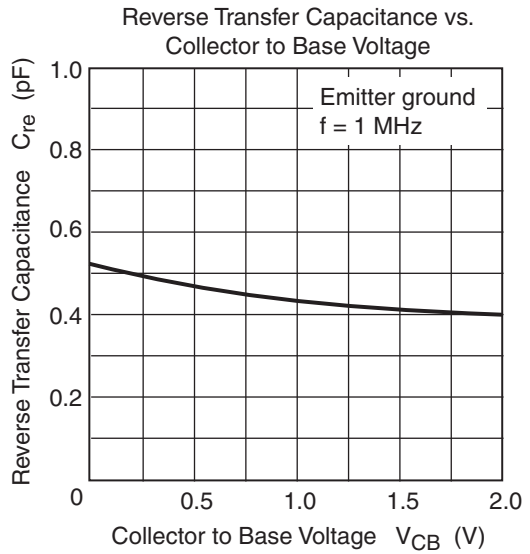
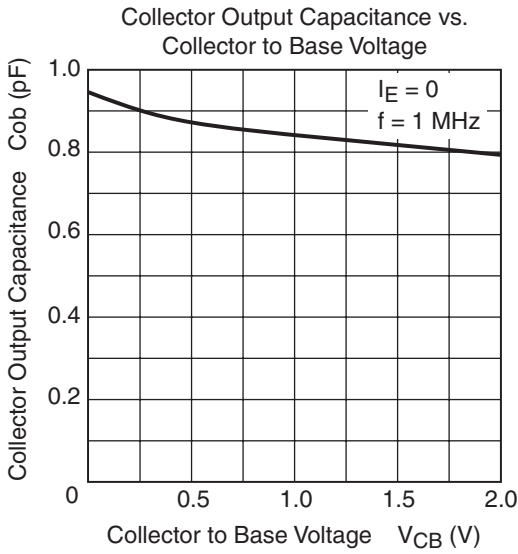
Item	Symbol	Ratings	Unit
Collector to base voltage	V _{CBO}	15	V
Collector to emitter voltage	V _{CEO}	4.0	V
Emitter to base voltage	V _{EBO}	1.5	V
Collector current	I _C	80	mA
Collector power dissipation	P _C	80	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	−55 to 150	°C

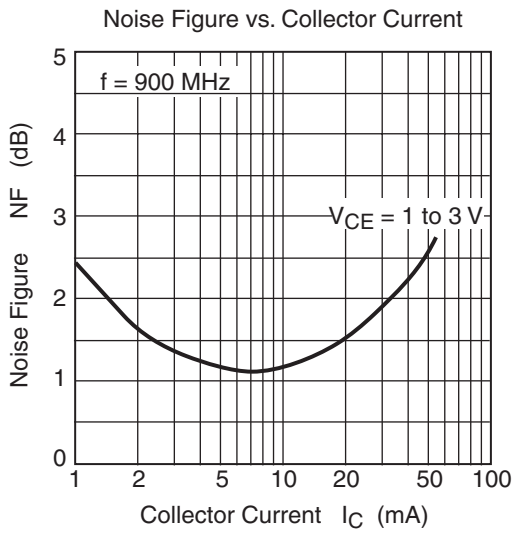
Electrical Characteristics

(Ta = 25°C)

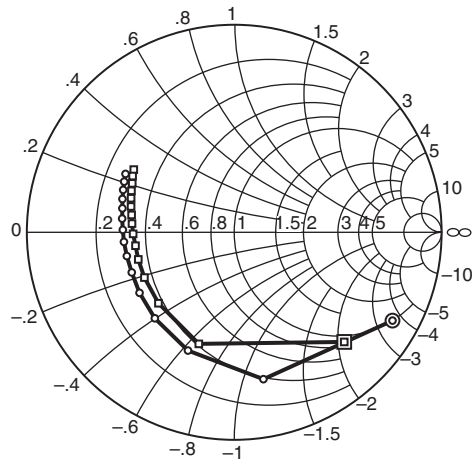
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	V _{(BR)CBO}	15	—	—	V	I _C = 10 μA, I _E = 0
Collector cutoff current	I _{CBO}	—	—	0.1	μA	V _{CB} = 15 V, I _E = 0
Collector cutoff current	I _{CEO}	—	—	1.0	μA	V _{CE} = 3.5 V, R _{BE} = Infinite
Emitter cutoff current	I _{EBO}	—	—	0.5	μA	V _{EB} = 0.8 V, I _C = 0
DC current transfer ratio	h _{FE}	120	140	170	—	V _{CE} = 1 V, I _C = 5 mA
Reverse transfer capacitance	C _{re}	—	0.45	—	pF	V _{CB} = 1 V, Emitter ground, f = 1 MHz
Collector output capacitance	C _{ob}	—	0.85	1.0	PF	V _{CB} = 1 V, I _E = 0, f = 1 MHz
Gain bandwidth product	f _T (1)	5.0	7.5	—	GHz	V _{CE} = 1 V, I _C = 5 mA f = 1 GHz
Gain bandwidth product	f _T (2)	—	15.0	—	GHz	V _{CE} = 1 V, I _C = 40 mA f = 1 GHz
Power gain	PG	11.0	14.0	—	dB	V _{CE} = 1 V, I _C = 5 mA, f = 900 MHz
Noise figure	NF	—	1.2	1.8	dB	V _{CE} = 1 V, I _C = 5 mA, f = 900 MHz





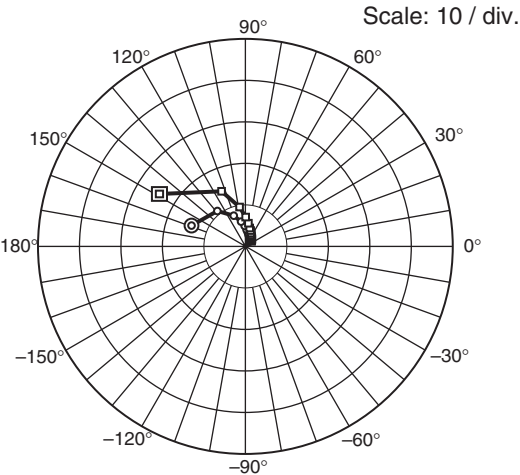


S₁₁ Parameter vs. Frequency



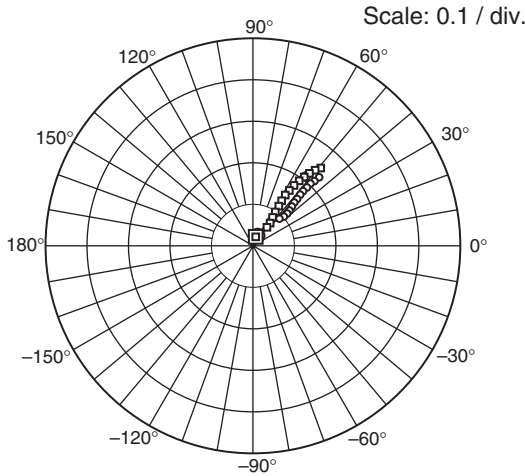
Test conditions: $V_{CE} = 1\text{ V}$, $Z_O = 50\ \Omega$
100 to 2900 MHz (200 MHz step)
● (I_C = 5 mA)
■ (I_C = 10 mA)

S₂₁ Parameter vs. Frequency



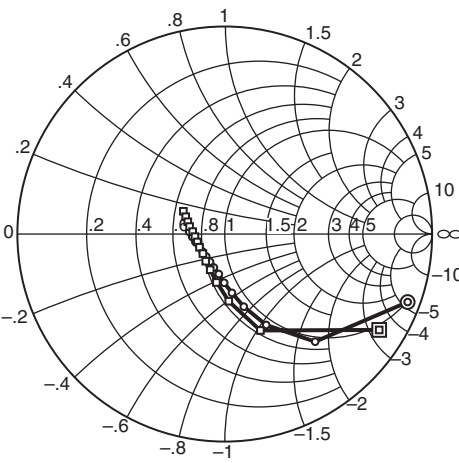
Test conditions: $V_{CE} = 1\text{ V}$, $Z_O = 50\ \Omega$
100 to 2900 MHz (200 MHz step)
● (I_C = 5 mA)
■ (I_C = 10 mA)

S₁₂ Parameter vs. Frequency



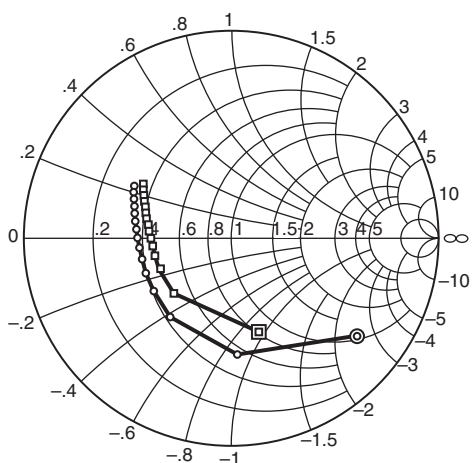
Test conditions: $V_{CE} = 1\text{ V}$, $Z_O = 50\ \Omega$
100 to 2900 MHz (200 MHz step)
● (I_C = 5 mA)
■ (I_C = 10 mA)

S₂₂ Parameter vs. Frequency



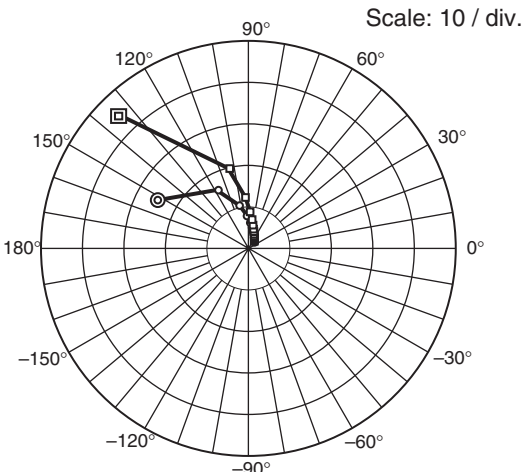
Test conditions: $V_{CE} = 1\text{ V}$, $Z_O = 50\ \Omega$
100 to 2900 MHz (200 MHz step)
● (I_C = 5 mA)
■ (I_C = 10 mA)

S_{11} Parameter vs. Frequency



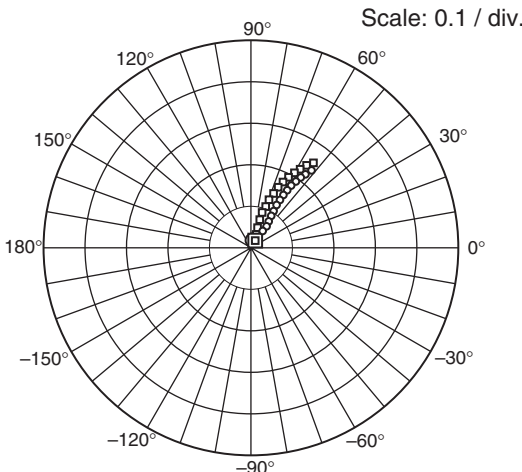
Test conditions: $V_{CE} = 3\text{ V}$, $Z_O = 50\ \Omega$
100 to 2900 MHz (200 MHz step)
● ($I_C = 10\text{ mA}$)
■ ($I_C = 30\text{ mA}$)

S_{21} Parameter vs. Frequency



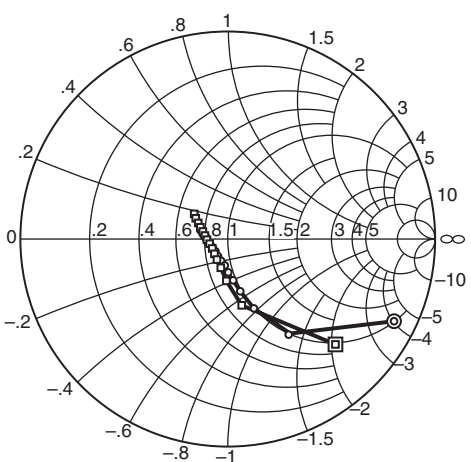
Test conditions: $V_{CE} = 3\text{ V}$, $Z_O = 50\ \Omega$
100 to 2900 MHz (200 MHz step)
● ($I_C = 10\text{ mA}$)
■ ($I_C = 30\text{ mA}$)

S_{12} Parameter vs. Frequency



Test conditions: $V_{CE} = 3\text{ V}$, $Z_O = 50\ \Omega$
100 to 2900 MHz (200 MHz step)
● ($I_C = 10\text{ mA}$)
■ ($I_C = 30\text{ mA}$)

S_{22} Parameter vs. Frequency



Test conditions: $V_{CE} = 3\text{ V}$, $Z_O = 50\ \Omega$
100 to 2900 MHz (200 MHz step)
● ($I_C = 10\text{ mA}$)
■ ($I_C = 30\text{ mA}$)

S Parameter

(V_{CE} = 1 V, I_C = 5 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.874	-29.1	14.076	159.0	0.028	73.4	0.945	-20.2
200	0.793	-55.7	12.398	141.0	0.056	63.5	0.807	-37.2
300	0.718	-78.8	10.717	127.6	0.075	55.3	0.676	-49.8
400	0.655	-97.0	9.170	117.3	0.084	49.8	0.565	-58.7
500	0.611	-111.5	7.878	109.4	0.092	46.8	0.479	-65.3
600	0.583	-123.4	6.880	103.0	0.098	45.4	0.412	-70.9
700	0.563	-132.9	6.054	97.9	0.103	44.3	0.359	-75.1
800	0.551	-140.8	5.410	93.5	0.108	44.3	0.318	-79.6
900	0.542	-147.6	4.873	89.6	0.115	44.1	0.283	-82.8
1000	0.534	-153.5	4.439	86.1	0.119	44.7	0.254	-86.6
1100	0.532	-158.8	4.074	82.8	0.123	44.8	0.231	-90.5
1200	0.530	-163.6	3.762	79.8	0.130	45.5	0.211	-94.5
1300	0.530	-167.7	3.492	77.0	0.135	46.0	0.193	-98.3
1400	0.530	-171.5	3.267	74.3	0.140	46.6	0.179	-102.9
1500	0.533	-175.2	3.063	71.8	0.146	47.0	0.166	-108.0
1600	0.536	-178.4	2.886	69.3	0.151	47.2	0.156	-113.3
1700	0.538	-178.6	2.728	67.0	0.156	47.3	0.148	-118.1
1800	0.541	-175.7	2.588	64.7	0.163	47.5	0.141	-123.9
1900	0.545	-172.9	2.466	62.4	0.168	47.8	0.137	-129.7
2000	0.549	-170.4	2.353	60.2	0.174	47.9	0.134	-135.9
2100	0.553	-167.8	2.249	58.0	0.181	48.0	0.133	-142.0
2200	0.558	-165.5	2.154	56.0	0.187	47.9	0.133	-148.6
2300	0.564	-163.3	2.071	54.0	0.193	47.7	0.136	-154.8
2400	0.569	-161.2	1.989	52.0	0.199	47.7	0.139	-159.8
2500	0.574	-159.0	1.918	50.0	0.205	47.7	0.144	-165.7
2600	0.581	-157.2	1.848	48.1	0.212	47.4	0.149	-170.3
2700	0.586	-155.2	1.784	46.2	0.217	46.9	0.156	-175.6
2800	0.592	-153.3	1.725	44.4	0.224	46.9	0.164	-179.5
2900	0.595	-151.7	1.664	42.7	0.231	46.4	0.172	-175.9
3000	0.602	-150.5	1.618	41.5	0.236	46.2	0.181	-172.5
3100	0.620	-148.6	1.593	39.7	0.243	45.6	0.191	-168.7
3200	0.626	-146.5	1.549	37.3	0.249	45.2	0.200	-166.1
3300	0.631	-144.4	1.504	35.2	0.255	44.8	0.212	-162.8
3400	0.630	-142.6	1.445	33.3	0.262	44.1	0.223	-160.3
3500	0.634	-141.5	1.401	32.1	0.267	43.6	0.233	-157.4
3600	0.642	-140.2	1.368	30.7	0.273	43.1	0.243	-154.9
3700	0.650	-138.8	1.334	29.1	0.278	42.5	0.255	-152.5
3800	0.656	-137.3	1.300	27.6	0.284	42.1	0.266	-150.3
3900	0.662	-135.9	1.266	26.1	0.290	41.2	0.278	-148.3
4000	0.667	-134.4	1.234	24.7	0.295	40.8	0.288	-146.1

(V_{CE} = 1 V, I_C = 10 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.745	-45.0	24.250	149.0	0.022	68.5	0.875	-32.2
200	0.634	-82.5	18.902	127.2	0.045	57.5	0.651	-55.0
300	0.563	-108.0	14.610	113.9	0.058	53.1	0.496	-69.8
400	0.524	-125.0	11.639	105.3	0.064	53.1	0.392	-79.2
500	0.503	-137.3	9.581	99.3	0.070	53.0	0.322	-86.8
600	0.493	-146.5	8.142	94.5	0.076	54.0	0.273	-94.0
700	0.487	-153.6	7.049	90.7	0.085	55.4	0.235	-100.1
800	0.484	-159.3	6.224	87.2	0.092	55.9	0.210	-106.4
900	0.484	-164.5	5.561	84.2	0.101	56.5	0.187	-112.6
1000	0.482	-168.8	5.036	81.4	0.109	57.0	0.169	-118.8
1100	0.483	-172.5	4.600	78.8	0.116	56.9	0.158	-125.5
1200	0.485	-176.2	4.231	76.3	0.124	57.5	0.149	-132.4
1300	0.489	-179.3	3.913	73.9	0.132	57.5	0.142	-138.7
1400	0.492	177.9	3.654	71.7	0.140	57.4	0.138	-145.5
1500	0.497	175.0	3.418	69.5	0.148	57.5	0.137	-152.8
1600	0.502	172.5	3.214	67.4	0.155	56.9	0.138	-158.7
1700	0.506	170.3	3.032	65.4	0.163	56.7	0.139	-164.2
1800	0.510	168.1	2.872	63.4	0.171	56.2	0.142	-169.8
1900	0.515	165.9	2.732	61.4	0.179	55.8	0.146	-175.3
2000	0.520	163.8	2.603	59.4	0.186	55.1	0.151	-180.0
2100	0.526	161.7	2.485	57.5	0.194	54.6	0.158	175.5
2200	0.532	159.8	2.377	55.7	0.201	54.2	0.164	171.6
2300	0.538	158.0	2.282	53.9	0.209	53.3	0.173	167.9
2400	0.545	156.2	2.190	52.0	0.217	52.7	0.181	165.0
2500	0.551	154.4	2.109	50.2	0.223	52.1	0.189	161.6
2600	0.557	152.8	2.030	48.5	0.232	51.4	0.198	159.1
2700	0.564	151.1	1.958	46.8	0.238	50.6	0.208	156.1
2800	0.568	149.5	1.890	45.1	0.245	50.0	0.217	153.9
2900	0.574	148.1	1.822	43.6	0.252	49.0	0.227	151.2
3000	0.582	147.1	1.771	42.5	0.259	48.3	0.238	149.3
3100	0.599	145.5	1.741	40.9	0.265	47.6	0.248	147.1
3200	0.606	143.4	1.692	38.6	0.271	46.5	0.258	145.4
3300	0.611	141.5	1.642	36.7	0.278	45.9	0.270	143.4
3400	0.611	139.8	1.576	34.9	0.283	45.1	0.280	141.8
3500	0.615	139.1	1.527	33.8	0.289	44.2	0.290	139.9
3600	0.623	137.8	1.491	32.5	0.295	43.3	0.301	138.2
3700	0.632	136.5	1.454	31.0	0.301	42.5	0.311	136.6
3800	0.638	135.1	1.416	29.6	0.306	41.7	0.321	134.9
3900	0.644	133.8	1.379	28.2	0.311	40.7	0.331	133.4
4000	0.650	132.4	1.343	26.9	0.316	40.1	0.341	132.0

2SC5907

(V_{CE} = 1 V, I_C = 20 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.572	-71.5	36.170	136.2	0.020	71.8	0.749	-48.0
200	0.492	-113.8	23.674	114.2	0.035	58.0	0.486	-74.5
300	0.465	-135.6	16.826	103.7	0.044	58.3	0.358	-90.6
400	0.454	-148.2	12.929	97.4	0.053	62.4	0.281	-101.5
500	0.451	-156.9	10.457	92.9	0.060	64.7	0.234	-111.6
600	0.451	-163.2	8.789	89.2	0.070	64.6	0.205	-120.8
700	0.452	-168.1	7.565	86.2	0.080	65.4	0.184	-129.2
800	0.454	-172.0	6.648	83.4	0.089	66.0	0.174	-136.9
900	0.456	-175.8	5.925	80.9	0.098	65.8	0.164	-144.3
1000	0.458	-178.9	5.353	78.6	0.107	65.1	0.159	-151.6
1100	0.461	178.4	4.880	76.3	0.116	65.1	0.158	-158.1
1200	0.466	175.7	4.483	74.2	0.125	64.8	0.157	-164.0
1300	0.471	173.4	4.142	72.1	0.135	63.9	0.159	-169.7
1400	0.474	171.1	3.861	70.1	0.145	63.6	0.163	-174.8
1500	0.480	168.8	3.609	68.2	0.153	62.9	0.168	-179.9
1600	0.487	166.8	3.390	66.2	0.162	62.1	0.173	176.2
1700	0.491	165.1	3.195	64.4	0.170	61.2	0.178	172.1
1800	0.496	163.2	3.025	62.6	0.179	60.6	0.184	168.4
1900	0.502	161.4	2.875	60.7	0.188	59.7	0.191	165.1
2000	0.507	159.6	2.737	58.9	0.196	58.8	0.198	162.2
2100	0.513	157.7	2.611	57.1	0.205	57.9	0.207	159.3
2200	0.520	156.2	2.495	55.4	0.214	57.0	0.216	156.6
2300	0.526	154.6	2.395	53.7	0.222	55.8	0.225	154.2
2400	0.534	153.1	2.295	52.0	0.229	54.9	0.233	152.1
2500	0.539	151.4	2.210	50.3	0.237	54.0	0.243	149.8
2600	0.547	150.0	2.126	48.7	0.244	53.2	0.251	148.0
2700	0.553	148.5	2.049	47.1	0.251	52.2	0.262	145.9
2800	0.559	147.0	1.977	45.5	0.259	51.1	0.271	144.2
2900	0.564	145.8	1.904	44.1	0.266	50.1	0.281	142.2
3000	0.573	144.9	1.849	43.1	0.273	49.1	0.291	140.6
3100	0.589	143.4	1.817	41.5	0.279	48.2	0.302	138.9
3200	0.597	141.5	1.765	39.4	0.286	47.1	0.310	137.5
3300	0.602	139.7	1.713	37.5	0.292	46.3	0.322	135.8
3400	0.603	138.1	1.643	35.8	0.298	45.1	0.331	134.5
3500	0.608	137.3	1.591	34.8	0.303	44.3	0.343	133.0
3600	0.616	136.2	1.553	33.5	0.309	43.2	0.352	131.3
3700	0.624	134.9	1.513	32.2	0.314	42.4	0.361	130.0
3800	0.630	133.6	1.473	30.8	0.319	41.4	0.371	128.5
3900	0.637	132.4	1.434	29.5	0.323	40.3	0.380	127.2
4000	0.643	131.1	1.398	28.2	0.328	39.6	0.388	125.8

(V_{CE} = 1 V, I_C = 30 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.485	-93.3	41.381	128.6	0.019	75.1	0.660	-57.3
200	0.448	-131.3	25.084	108.6	0.029	62.5	0.409	-85.3
300	0.441	-148.8	17.402	99.8	0.040	64.3	0.302	-102.3
400	0.439	-158.4	13.249	94.4	0.050	68.1	0.245	-115.1
500	0.441	-165.1	10.669	90.5	0.060	68.7	0.212	-125.7
600	0.442	-170.0	8.943	87.2	0.069	68.9	0.194	-135.6
700	0.446	-173.9	7.687	84.5	0.079	69.2	0.182	-144.0
800	0.449	-177.2	6.748	82.0	0.089	69.7	0.178	-151.3
900	0.452	179.7	6.009	79.7	0.099	68.9	0.173	-158.2
1000	0.454	177.2	5.426	77.5	0.109	68.1	0.172	-164.3
1100	0.459	174.9	4.945	75.4	0.118	67.8	0.174	-169.9
1200	0.463	172.3	4.540	73.3	0.128	67.1	0.176	-175.3
1300	0.469	170.3	4.193	71.4	0.138	66.4	0.178	-179.6
1400	0.472	168.3	3.909	69.4	0.147	65.8	0.185	176.1
1500	0.478	166.4	3.651	67.6	0.157	64.9	0.190	172.3
1600	0.484	164.5	3.429	65.7	0.165	63.6	0.197	169.1
1700	0.489	163.0	3.230	64.0	0.174	62.9	0.203	165.5
1800	0.495	161.2	3.057	62.2	0.183	61.9	0.210	162.7
1900	0.501	159.5	2.906	60.4	0.193	60.8	0.217	160.0
2000	0.506	157.9	2.765	58.6	0.201	59.8	0.224	157.3
2100	0.512	156.2	2.636	56.9	0.210	58.8	0.234	154.9
2200	0.519	154.7	2.520	55.3	0.218	57.7	0.242	152.6
2300	0.526	153.2	2.418	53.6	0.226	56.5	0.251	150.6
2400	0.533	151.7	2.317	51.9	0.235	55.5	0.260	148.7
2500	0.539	150.2	2.230	50.2	0.242	54.5	0.270	146.6
2600	0.547	148.8	2.144	48.7	0.250	53.6	0.278	144.8
2700	0.553	147.4	2.066	47.1	0.257	52.5	0.289	143.0
2800	0.559	145.9	1.994	45.6	0.264	51.4	0.298	141.4
2900	0.563	144.7	1.919	44.2	0.272	50.1	0.308	139.5
3000	0.572	144.0	1.863	43.2	0.278	49.2	0.318	138.0
3100	0.589	142.4	1.832	41.7	0.285	48.2	0.328	136.4
3200	0.596	140.6	1.779	39.6	0.291	47.1	0.336	135.1
3300	0.602	138.8	1.725	37.7	0.297	46.3	0.347	133.4
3400	0.602	137.3	1.654	36.0	0.303	45.2	0.357	132.2
3500	0.608	136.5	1.603	35.1	0.309	44.2	0.367	130.8
3600	0.615	135.5	1.562	33.8	0.315	43.1	0.376	129.3
3700	0.624	134.2	1.523	32.5	0.320	42.0	0.385	127.9
3800	0.630	132.9	1.483	31.1	0.324	41.2	0.394	126.4
3900	0.637	131.7	1.443	29.9	0.329	40.0	0.403	125.3
4000	0.642	130.4	1.406	28.6	0.333	39.2	0.411	124.0

2SC5907

(V_{CE} = 1 V, I_C = 40 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.447	-110.0	43.022	123.8	0.016	59.7	0.600	-63.4
200	0.434	-141.4	25.489	105.8	0.028	68.5	0.369	-92.8
300	0.434	-155.9	17.520	97.8	0.040	65.2	0.281	-110.7
400	0.436	-163.9	13.295	92.9	0.049	70.5	0.233	-123.6
500	0.439	-169.6	10.689	89.3	0.059	70.6	0.208	-134.9
600	0.443	-173.7	8.952	86.2	0.069	71.8	0.195	-144.2
700	0.447	-177.1	7.688	83.7	0.079	71.5	0.187	-152.2
800	0.450	-179.9	6.748	81.2	0.089	71.4	0.185	-158.8
900	0.454	177.5	6.006	79.0	0.100	70.7	0.182	-165.7
1000	0.456	174.9	5.423	76.9	0.109	69.7	0.184	-170.6
1100	0.461	172.8	4.939	74.8	0.120	68.8	0.188	-175.6
1200	0.465	170.6	4.536	72.9	0.130	68.4	0.191	179.8
1300	0.471	168.7	4.187	70.9	0.140	67.3	0.194	175.8
1400	0.475	166.9	3.904	69.1	0.149	66.5	0.200	172.1
1500	0.482	164.9	3.646	67.2	0.159	65.4	0.207	168.6
1600	0.487	163.2	3.422	65.4	0.168	64.4	0.214	165.7
1700	0.492	161.7	3.225	63.6	0.177	63.4	0.220	162.6
1800	0.497	160.1	3.051	61.9	0.187	62.4	0.227	160.0
1900	0.504	158.5	2.900	60.1	0.196	61.3	0.235	157.5
2000	0.509	156.9	2.759	58.4	0.204	60.2	0.242	154.9
2100	0.515	155.3	2.631	56.7	0.213	59.0	0.251	152.7
2200	0.522	153.8	2.514	55.1	0.222	58.0	0.259	150.7
2300	0.528	152.3	2.412	53.4	0.230	56.7	0.269	148.7
2400	0.536	151.0	2.311	51.8	0.238	55.7	0.277	146.9
2500	0.542	149.3	2.224	50.1	0.246	54.7	0.287	145.0
2600	0.549	148.1	2.138	48.6	0.253	53.6	0.295	143.3
2700	0.556	146.7	2.060	47.0	0.261	52.5	0.306	141.6
2800	0.562	145.2	1.988	45.5	0.267	51.6	0.315	140.0
2900	0.566	144.2	1.913	44.1	0.275	50.1	0.324	138.2
3000	0.574	143.3	1.858	43.2	0.282	49.1	0.335	136.7
3100	0.592	141.9	1.826	41.6	0.288	48.2	0.344	135.3
3200	0.598	140.0	1.773	39.6	0.294	47.0	0.353	133.9
3300	0.605	138.2	1.719	37.7	0.301	46.1	0.364	132.4
3400	0.605	136.7	1.649	36.0	0.307	44.9	0.373	131.1
3500	0.610	136.0	1.596	35.1	0.312	43.9	0.383	129.6
3600	0.618	134.9	1.557	33.9	0.318	42.7	0.391	128.1
3700	0.626	133.7	1.517	32.5	0.323	41.8	0.401	126.9
3800	0.633	132.3	1.476	31.2	0.327	40.8	0.410	125.5
3900	0.639	131.2	1.437	29.9	0.331	39.8	0.419	124.3
4000	0.645	130.0	1.400	28.7	0.337	38.9	0.426	123.0

(V_{CE} = 3 V, I_C = 5 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.884	-25.2	14.180	160.9	0.023	73.7	0.957	-16.6
200	0.809	-49.5	12.718	144.1	0.048	66.8	0.841	-30.7
300	0.732	-70.7	11.212	131.0	0.065	58.5	0.720	-41.9
400	0.665	-88.3	9.750	120.7	0.075	54.1	0.614	-49.3
500	0.612	-102.7	8.476	112.7	0.083	49.6	0.528	-54.5
600	0.576	-114.8	7.464	106.2	0.088	47.4	0.459	-58.6
700	0.550	-124.8	6.604	100.9	0.093	47.3	0.405	-61.3
800	0.532	-133.1	5.922	96.4	0.099	47.5	0.363	-64.2
900	0.519	-140.6	5.351	92.4	0.103	47.4	0.326	-66.0
1000	0.508	-146.8	4.881	88.9	0.109	47.3	0.296	-68.0
1100	0.505	-152.3	4.487	85.6	0.113	48.2	0.270	-69.9
1200	0.499	-157.5	4.148	82.6	0.118	48.4	0.248	-71.7
1300	0.498	-162.1	3.854	79.7	0.123	48.9	0.228	-73.6
1400	0.497	-166.2	3.608	77.1	0.129	49.3	0.211	-76.2
1500	0.499	-170.2	3.385	74.5	0.134	49.6	0.194	-78.4
1600	0.500	-173.8	3.190	72.1	0.139	49.9	0.181	-81.2
1700	0.503	-176.9	3.016	69.8	0.143	50.4	0.169	-83.7
1800	0.506	-180.0	2.863	67.5	0.150	50.7	0.157	-87.0
1900	0.508	-177.1	2.728	65.3	0.155	51.1	0.147	-90.5
2000	0.512	-174.3	2.604	63.1	0.160	51.2	0.137	-94.3
2100	0.516	-171.6	2.489	61.0	0.167	51.4	0.129	-99.2
2200	0.521	-169.2	2.385	58.9	0.173	51.4	0.122	-104.6
2300	0.527	-166.8	2.292	56.9	0.179	51.3	0.117	-110.9
2400	0.533	-164.6	2.203	54.9	0.185	51.2	0.113	-116.7
2500	0.538	-162.4	2.124	52.9	0.191	51.4	0.110	-123.9
2600	0.544	-160.4	2.049	51.1	0.197	51.0	0.109	-130.4
2700	0.549	-158.3	1.977	49.2	0.203	50.9	0.109	-138.4
2800	0.555	-156.4	1.911	47.4	0.210	50.5	0.111	-144.9
2900	0.560	-154.8	1.844	45.7	0.216	50.3	0.113	-152.6
3000	0.567	-153.5	1.794	44.5	0.223	50.2	0.119	-158.7
3100	0.584	-151.6	1.767	42.7	0.229	49.9	0.124	-165.3
3200	0.591	-149.3	1.718	40.3	0.236	49.3	0.131	-170.0
3300	0.597	-147.2	1.670	38.2	0.242	49.0	0.141	-176.0
3400	0.596	-145.3	1.603	36.2	0.248	48.4	0.149	-179.6
3500	0.601	-144.3	1.555	35.0	0.254	47.7	0.159	-175.4
3600	0.609	-143.0	1.519	33.6	0.261	47.3	0.168	-171.4
3700	0.618	-141.4	1.481	32.0	0.267	46.7	0.179	-167.7
3800	0.624	-139.8	1.444	30.4	0.272	46.2	0.190	-164.2
3900	0.631	-138.5	1.406	28.8	0.278	45.5	0.201	-161.2
4000	0.637	-137.0	1.371	27.3	0.284	45.0	0.212	-158.4

2SC5907

(V_{CE} = 3 V, I_C = 10 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.766	-38.1	24.687	152.1	0.018	76.6	0.894	-26.2
200	0.651	-71.9	19.931	131.0	0.039	62.6	0.697	-45.6
300	0.560	-96.5	15.796	117.5	0.050	57.2	0.544	-57.5
400	0.507	-114.4	12.749	108.5	0.059	56.5	0.435	-64.5
500	0.475	-127.4	10.568	102.1	0.065	55.6	0.358	-69.4
600	0.459	-137.5	9.018	97.1	0.071	56.8	0.302	-73.7
700	0.449	-145.5	7.828	93.1	0.078	57.4	0.260	-76.6
800	0.442	-152.0	6.923	89.7	0.084	58.4	0.228	-80.0
900	0.439	-157.7	6.196	86.6	0.093	58.7	0.201	-82.7
1000	0.437	-162.5	5.613	83.7	0.100	58.9	0.178	-85.6
1100	0.437	-166.8	5.133	81.1	0.106	59.3	0.159	-89.3
1200	0.437	-170.8	4.723	78.7	0.114	59.4	0.143	-92.9
1300	0.441	-174.2	4.373	76.3	0.122	59.9	0.129	-96.8
1400	0.441	-177.3	4.082	74.1	0.128	59.2	0.117	-101.9
1500	0.447	179.6	3.820	72.0	0.136	59.5	0.107	-107.5
1600	0.451	176.8	3.593	69.9	0.144	59.4	0.100	-113.8
1700	0.456	174.4	3.390	67.9	0.150	59.1	0.093	-120.4
1800	0.460	172.1	3.212	66.0	0.158	58.8	0.088	-127.7
1900	0.465	169.7	3.056	64.0	0.165	58.4	0.085	-135.8
2000	0.470	167.6	2.912	62.1	0.172	58.2	0.084	-144.1
2100	0.476	165.3	2.780	60.2	0.180	57.7	0.085	-152.9
2200	0.482	163.4	2.661	58.4	0.188	57.1	0.088	-160.3
2300	0.488	161.4	2.555	56.6	0.195	56.4	0.094	-167.9
2400	0.496	159.6	2.451	54.8	0.203	55.8	0.099	-173.8
2500	0.502	157.7	2.362	53.0	0.209	55.2	0.106	179.8
2600	0.509	156.1	2.274	51.3	0.216	54.7	0.112	175.3
2700	0.515	154.4	2.194	49.6	0.223	53.9	0.121	170.3
2800	0.521	152.7	2.118	47.9	0.230	53.4	0.130	166.7
2900	0.527	151.3	2.041	46.4	0.238	52.4	0.140	162.5
3000	0.535	150.3	1.984	45.4	0.244	51.9	0.150	159.6
3100	0.552	148.6	1.952	43.7	0.251	51.0	0.160	156.5
3200	0.560	146.5	1.896	41.5	0.257	50.3	0.169	154.3
3300	0.567	144.6	1.841	39.4	0.263	49.6	0.182	151.4
3400	0.567	142.9	1.768	37.6	0.270	48.6	0.193	149.5
3500	0.573	141.9	1.713	36.6	0.276	47.9	0.204	147.1
3600	0.581	140.8	1.672	35.2	0.283	47.0	0.214	144.9
3700	0.591	139.4	1.630	33.7	0.288	46.2	0.225	143.0
3800	0.597	138.0	1.588	32.2	0.293	45.5	0.237	141.0
3900	0.605	136.6	1.546	30.8	0.298	44.6	0.248	139.4
4000	0.612	135.3	1.507	29.5	0.304	44.0	0.258	137.7

($V_{CE} = 3 \text{ V}$, $I_C = 20 \text{ mA}$, $Z_O = 50 \Omega$)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.584	-58.1	37.700	140.9	0.018	63.2	0.787	-37.8
200	0.477	-99.3	25.854	118.3	0.031	66.8	0.538	-59.8
300	0.428	-122.9	18.692	107.0	0.040	61.6	0.392	-72.0
400	0.407	-137.7	14.465	100.2	0.048	64.3	0.301	-78.7
500	0.397	-147.8	11.741	95.4	0.055	65.5	0.243	-84.3
600	0.395	-155.3	9.888	91.5	0.064	65.4	0.202	-89.6
700	0.394	-161.2	8.522	88.4	0.072	66.8	0.171	-94.3
800	0.394	-165.7	7.497	85.6	0.081	67.5	0.151	-99.8
900	0.396	-170.0	6.687	83.1	0.091	67.3	0.131	-104.7
1000	0.397	-173.5	6.043	80.7	0.098	67.1	0.116	-111.3
1100	0.401	-176.6	5.512	78.5	0.107	66.6	0.107	-117.9
1200	0.404	-179.7	5.066	76.4	0.116	66.4	0.098	-124.9
1300	0.408	177.6	4.681	74.4	0.125	65.9	0.091	-132.8
1400	0.412	175.3	4.366	72.4	0.133	65.7	0.088	-140.7
1500	0.418	172.9	4.082	70.5	0.142	65.0	0.088	-149.9
1600	0.424	170.8	3.835	68.6	0.150	64.1	0.089	-157.0
1700	0.430	168.8	3.615	66.8	0.158	63.7	0.091	-165.0
1800	0.434	166.9	3.423	65.1	0.166	62.8	0.094	-171.5
1900	0.440	165.0	3.254	63.3	0.174	62.1	0.099	-177.8
2000	0.446	163.2	3.098	61.5	0.183	61.5	0.105	176.6
2100	0.452	161.3	2.956	59.8	0.191	60.5	0.112	171.4
2200	0.459	159.6	2.826	58.1	0.199	59.8	0.120	167.2
2300	0.467	157.9	2.713	56.4	0.206	58.7	0.129	163.6
2400	0.474	156.4	2.601	54.8	0.214	57.8	0.137	160.5
2500	0.481	154.7	2.504	53.1	0.221	57.0	0.147	157.1
2600	0.488	153.3	2.409	51.5	0.230	56.2	0.155	154.9
2700	0.496	151.8	2.322	49.9	0.236	55.3	0.166	152.0
2800	0.502	150.2	2.242	48.3	0.243	54.4	0.176	149.8
2900	0.508	149.1	2.159	46.9	0.250	53.3	0.187	147.2
3000	0.517	148.2	2.097	46.0	0.257	52.5	0.197	145.5
3100	0.534	146.6	2.062	44.4	0.265	51.4	0.208	143.6
3200	0.542	144.6	2.004	42.3	0.271	50.6	0.217	142.1
3300	0.550	142.9	1.943	40.3	0.277	49.6	0.230	140.2
3400	0.550	141.3	1.865	38.5	0.283	48.7	0.241	138.7
3500	0.557	140.4	1.805	37.6	0.289	47.7	0.251	137.0
3600	0.566	139.4	1.761	36.3	0.295	46.7	0.261	135.4
3700	0.574	138.1	1.717	34.9	0.301	45.8	0.272	134.0
3800	0.582	136.7	1.672	33.5	0.306	44.9	0.283	132.2
3900	0.590	135.4	1.627	32.1	0.310	44.0	0.293	131.0
4000	0.596	134.2	1.585	30.8	0.316	43.1	0.303	129.5

2SC5907

(V_{CE} = 3 V, I_C = 30 mA, Z_O = 50 Ω)

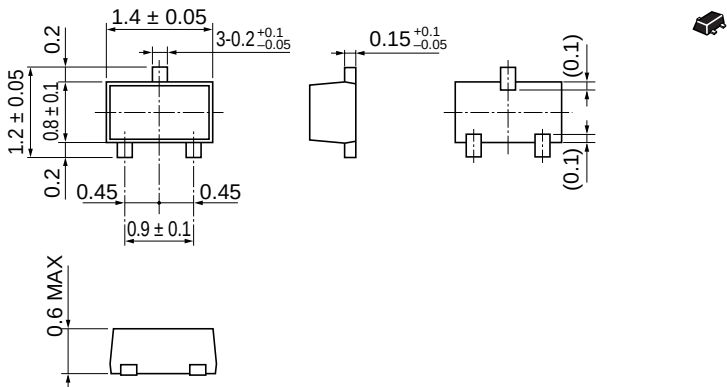
f (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.464	-73.7	44.556	134.3	0.021	59.3	0.724	-44.5
200	0.402	-115.2	27.999	112.7	0.026	66.6	0.455	-67.1
300	0.383	-136.8	19.642	103.0	0.036	65.3	0.325	-78.9
400	0.375	-148.6	15.027	97.0	0.045	70.0	0.249	-86.7
500	0.373	-157.4	12.123	92.9	0.052	69.5	0.200	-93.3
600	0.375	-163.1	10.186	89.5	0.063	71.2	0.167	-99.7
700	0.377	-167.8	8.757	86.7	0.072	70.9	0.142	-105.8
800	0.379	-171.6	7.697	84.2	0.081	71.0	0.128	-113.1
900	0.382	-175.0	6.856	81.8	0.091	71.1	0.112	-120.5
1000	0.383	-178.1	6.191	79.6	0.100	69.4	0.104	-127.4
1100	0.388	179.4	5.644	77.6	0.108	69.2	0.098	-134.9
1200	0.392	176.6	5.185	75.6	0.117	69.4	0.093	-143.5
1300	0.398	174.5	4.791	73.7	0.126	68.5	0.091	-151.2
1400	0.401	172.3	4.466	71.8	0.135	67.7	0.092	-159.1
1500	0.409	170.1	4.174	70.0	0.144	66.6	0.096	-167.4
1600	0.415	168.2	3.919	68.2	0.152	65.8	0.100	-173.0
1700	0.420	166.5	3.694	66.5	0.161	65.1	0.104	-179.2
1800	0.425	164.9	3.497	64.7	0.169	64.4	0.110	175.7
1900	0.431	163.0	3.323	63.0	0.179	63.4	0.116	170.8
2000	0.437	161.4	3.163	61.3	0.187	62.4	0.123	166.7
2100	0.444	159.5	3.018	59.6	0.195	61.4	0.131	163.0
2200	0.452	158.1	2.884	58.0	0.203	60.4	0.140	159.6
2300	0.459	156.6	2.768	56.4	0.211	59.4	0.150	156.9
2400	0.467	155.1	2.653	54.8	0.219	58.5	0.157	154.3
2500	0.474	153.5	2.553	53.1	0.226	57.5	0.168	151.7
2600	0.482	152.2	2.457	51.6	0.234	56.4	0.177	149.8
2700	0.489	150.8	2.367	50.0	0.241	55.6	0.187	147.4
2800	0.495	149.3	2.285	48.5	0.248	54.6	0.198	145.8
2900	0.502	148.0	2.199	47.1	0.256	53.3	0.208	143.6
3000	0.510	147.3	2.135	46.2	0.263	52.6	0.218	142.1
3100	0.528	145.8	2.100	44.7	0.269	51.5	0.229	139.9
3200	0.536	143.9	2.040	42.5	0.276	50.6	0.239	138.9
3300	0.543	142.2	1.978	40.6	0.282	49.6	0.252	137.1
3400	0.545	140.6	1.897	38.9	0.288	48.5	0.262	135.9
3500	0.552	139.8	1.837	38.0	0.294	47.6	0.273	134.1
3600	0.560	138.7	1.792	36.7	0.300	46.6	0.282	132.7
3700	0.569	137.5	1.746	35.4	0.305	45.5	0.293	131.2
3800	0.577	136.2	1.700	33.9	0.311	44.7	0.303	129.8
3900	0.584	134.9	1.654	32.6	0.315	43.6	0.313	128.6
4000	0.591	133.7	1.611	31.3	0.321	42.8	0.323	127.2

(V_{CE} = 3 V, I_C = 40 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.396	-85.4	48.244	130.4	0.012	85.0	0.667	-48.6
200	0.369	-125.9	28.970	109.8	0.024	70.8	0.410	-71.1
300	0.364	-144.7	20.057	100.9	0.035	67.8	0.291	-84.0
400	0.363	-155.2	15.271	95.4	0.043	73.6	0.222	-92.1
500	0.363	-162.4	12.290	91.6	0.053	73.6	0.179	-99.1
600	0.368	-167.4	10.310	88.4	0.062	72.6	0.152	-106.8
700	0.370	-171.5	8.858	85.8	0.072	72.6	0.130	-113.7
800	0.372	-174.7	7.780	83.4	0.080	73.1	0.118	-121.3
900	0.377	-178.0	6.929	81.2	0.091	71.3	0.107	-129.1
1000	0.379	179.4	6.255	79.1	0.100	71.1	0.099	-137.5
1100	0.383	177.1	5.701	77.1	0.109	70.8	0.097	-145.3
1200	0.388	174.6	5.236	75.2	0.119	69.9	0.095	-153.7
1300	0.394	172.6	4.837	73.3	0.128	69.4	0.094	-161.2
1400	0.397	170.6	4.507	71.5	0.137	68.6	0.098	-168.1
1500	0.405	168.6	4.213	69.7	0.145	67.6	0.103	-175.0
1600	0.411	166.8	3.955	67.9	0.155	66.8	0.108	179.9
1700	0.417	165.3	3.728	66.2	0.163	65.7	0.113	174.5
1800	0.422	163.7	3.528	64.6	0.172	64.7	0.119	170.2
1900	0.428	162.0	3.352	62.8	0.180	63.8	0.127	166.1
2000	0.434	160.4	3.191	61.2	0.188	62.9	0.134	162.7
2100	0.441	158.7	3.043	59.5	0.197	62.0	0.142	159.3
2200	0.449	157.4	2.909	57.9	0.205	61.0	0.151	156.7
2300	0.456	155.8	2.790	56.3	0.214	59.8	0.161	154.1
2400	0.464	154.3	2.674	54.7	0.221	58.8	0.170	151.9
2500	0.472	152.9	2.573	53.1	0.229	57.7	0.180	149.3
2600	0.479	151.5	2.476	51.6	0.236	56.7	0.188	147.5
2700	0.487	150.1	2.386	50.1	0.244	55.8	0.200	145.6
2800	0.493	148.7	2.301	48.5	0.251	54.7	0.209	143.9
2900	0.499	147.6	2.215	47.2	0.259	53.5	0.220	141.9
3000	0.508	146.8	2.151	46.3	0.266	52.8	0.230	140.4
3100	0.526	145.4	2.115	44.8	0.272	51.5	0.242	138.6
3200	0.534	143.5	2.054	42.6	0.278	50.4	0.250	137.4
3300	0.541	141.7	1.993	40.8	0.285	49.7	0.262	135.7
3400	0.543	140.2	1.910	39.0	0.291	48.5	0.273	134.5
3500	0.549	139.5	1.849	38.1	0.297	47.5	0.284	132.9
3600	0.558	138.4	1.804	36.8	0.303	46.3	0.294	131.5
3700	0.567	137.2	1.757	35.5	0.308	45.4	0.304	130.1
3800	0.575	135.8	1.710	34.2	0.313	44.6	0.314	128.7
3900	0.583	134.6	1.665	32.9	0.318	43.5	0.324	127.5
4000	0.589	133.4	1.621	31.6	0.323	42.7	0.334	126.0

Package Dimensions

As of July, 2002
Unit: mm



Hitachi Code	MFPAK
JEDEC	—
JEITA	—
Mass (reference value)	0.0016 g

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