

## **Absolute Maximum Ratings** (Ta = $25^{\circ}$ C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V <sub>CBO</sub>	15	V
Collector to emitter voltage	V <sub>CEO</sub>	6	V
Emitter to base voltage	V <sub>EBO</sub>	1.5	V
Collector current	I <sub>c</sub>	50	mA
Collector power dissipation	Pc	150	mW
Junction temperature	Тј	150	°C
Storage temperature	Tstg	–55 to +150	°C

## **Electrical Characteristics** (Ta = 25°C)

Item	Symbol	Min	Тур	Max	Unit	Test Conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	15	—	—	V	$I_c = 10\mu A$ , $I_e = 0$
Collector cutoff current	I <sub>CBO</sub>	_	_	1	μA	$V_{\text{CB}} = 12V$ , $I_{\text{E}} = 0$
Collector cutoff current	I <sub>ceo</sub>	_	_	1	mA	$V_{ce} = 6V$ , $R_{be} =$
Emitter cutoff current	I <sub>EBO</sub>	_	_	10	μA	$V_{\scriptscriptstyle EB}=1.5V$ , $I_{\scriptscriptstyle C}=0$
DC current transfer ratio	h <sub>FE</sub>	80	120	160	V	$V_{\rm CE}$ = 3V , $I_{\rm C}$ = 20mA
Collector output capacitance	Cob	_	0.69	1.1	pF	$V_{CB} = 3V$ , $I_E = 0$ f = 1MHz
Gain bandwidth product	f <sub>T</sub>	10	12.6	_	GHz	$V_{\rm CE}$ = 3V , $I_{\rm C}$ = 20mA
Power gain	PG	14	16	—	dB	$V_{ce} = 3V, I_c = 20mA$ f = 900MHz
Noise figure	NF	_	1.1	2.0	dB	$V_{CE} = 3V, I_C = 5mA$ f = 900MHz



#### **Main Characteristics**





	S11		S21		S12		S22	
f (MHz)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.567	-60.8	34.04	146.8	0.0207	67.3	0.817	-37.3
200	0.539	-102.7	24.61	125.5	0.0329	54.3	0.605	-63.5
300	0.528	-128.1	18.16	113.2	0.0399	50.6	0.463	-80.5
400	0.525	-143.2	14.26	105.5	0.0447	50.3	0.379	-92.4
500	0.518	-153.6	11.65	100.2	0.0495	51.6	0.327	-101.8
600	0.526	-161.2	9.82	96.4	0.0545	53.3	0.293	-109.6
700	0.526	-167.9	8.48	92.9	0.0594	54.8	0.269	-116.2
800	0.528	-172.8	7.46	90.0	0.0639	56.1	0.253	-121.9
900	0.532	-178.3	6.63	87.4	0.0698	57.7	0.242	-127.0
1000	0.535	178.2	6.00	85.1	0.0741	58.7	0.235	-131.2
1100	0.536	174.2	5.48	82.9	0.0801	59.5	0.229	-135.1
1200	0.549	170.6	5.04	81.0	0.0851	60.6	0.225	-139.1
1300	0.546	167.6	4.67	79.1	0.0901	60.9	0.223	-142.0
1400	0.547	165.4	4.34	77.4	0.0961	61.5	0.222	-144.7
1500	0.552	162.4	4.09	75.7	0.102	62.1	0.222	-147.2
1600	0.562	159.4	3.82	74.0	0.106	62.3	0.223	-149.7
1700	0.561	157.3	3.62	72.5	0.113	62.5	0.224	-152.3
1800	0.563	154.8	3.43	70.7	0.118	62.9	0.227	-154.3
1900	0.573	152.5	3.26	69.2	0.124	62.3	0.229	-155.8
2000	0.577	150.0	3.13	67.8	0.130	63.0	0.232	-157.6

Sparameter (V $_{\rm CE}$  = 3V,  $I_{\rm C}$  = 20mA, Zo = 50 ~ )

## Package Dimensions

Unit: mm



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