

VHF/UHF WIDE BAND AMPLIFIER APPLICATION.

#### FEATURES

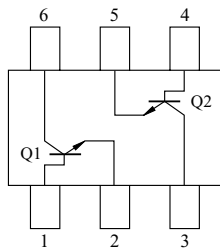
- Low Noise Figure, High Gain.
- $NF=1.1dB$ ,  $|S_{21e}|^2=13dB$  ( $f=1GHz$ ).
- Two internal isolated Transistors in one package.

#### MAXIMUM RATING (Ta=25 )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	20	V
Collector-Emitter Voltage	$V_{CEO}$	10	V
Emitter-Base Voltage	$V_{EBO}$	1.5	V
Collector Current	$I_C$	40	mA
Collector Power Dissipation	$P_C^*$	900	mW
Junction Temperature	$T_j$	150	
Storage Temperature Range	$T_{stg}$	-55 150	

\*Package mounted on a ceramic board (600mm<sup>2</sup> × 0.8mm)

#### EQUIVALENT CIRCUIT (Top View)

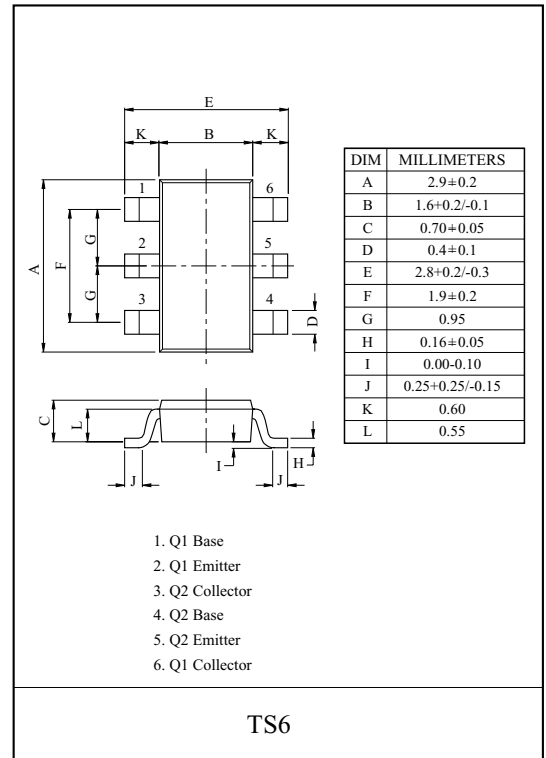


#### ELECTRICAL CHARACTERISTICS (Ta=25 )

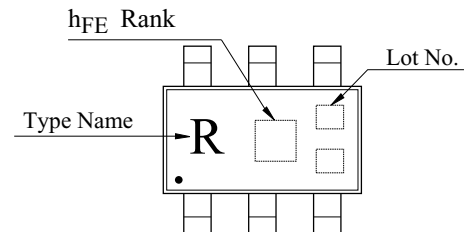
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=10V, I_E=0$	-	-	1	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=1V, I_C=0$	-	-	1	$\mu A$
DC Current Gain	$h_{FE}$ (Note1)	$V_{CE}=8V, I_C=20mA$	50	-	250	-
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$ (Note2)	-	0.7	-	pF
Reverse Transfer Capacitance	$C_{re}$		-	0.5	0.95	pF
Transition Frequency	$f_T$	$V_{CE}=8V, I_C=20mA$	7	10	-	GHz
Insertion Gain	$ S_{21e} ^2$ (1)	$V_{CE}=8V, I_C=20mA, f=1GHz$	10	13	-	dB
	$ S_{21e} ^2$ (2)	$V_{CE}=8V, I_C=20mA, f=2GHz$	-	7	-	dB
Noise Figure	NF (1)	$V_{CE}=8V, I_C=5mA, f=1GHz$	-	1.1	2.5	dB
	NF (2)	$V_{CE}=8V, I_C=5mA, f=2GHz$	-	1.7	-	dB

Note 1 :  $h_{FE}$  Classification H:50~100, J:80~160, K:125~250

Note 2 :  $C_{re}$  is measured by 3 terminal method with capacitance bridge.

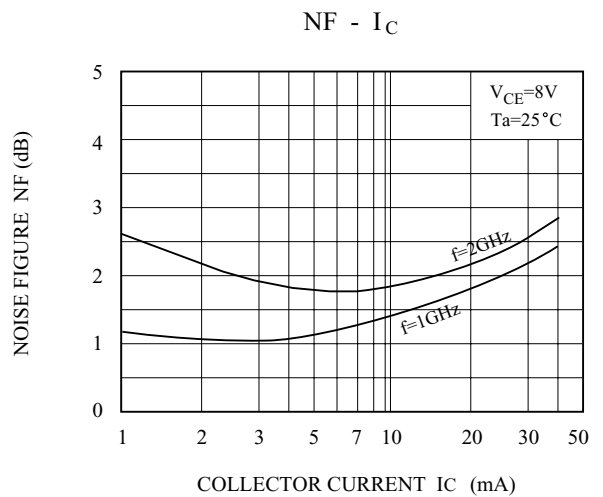
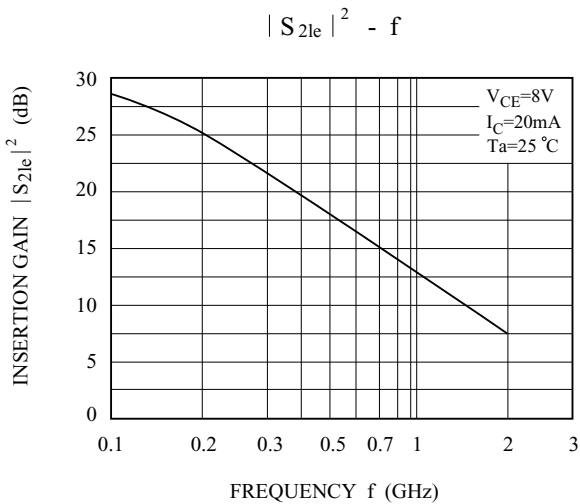
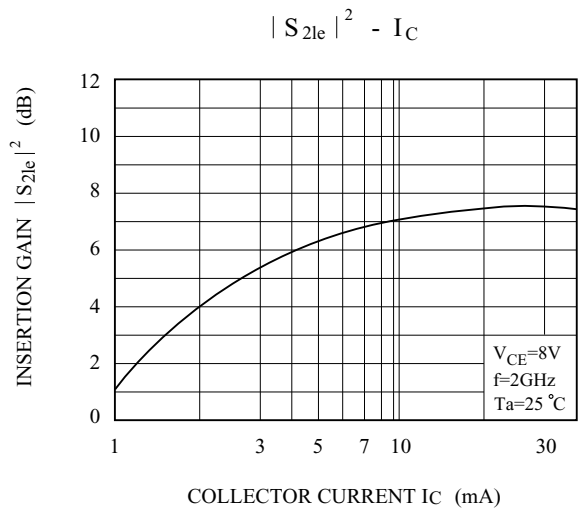
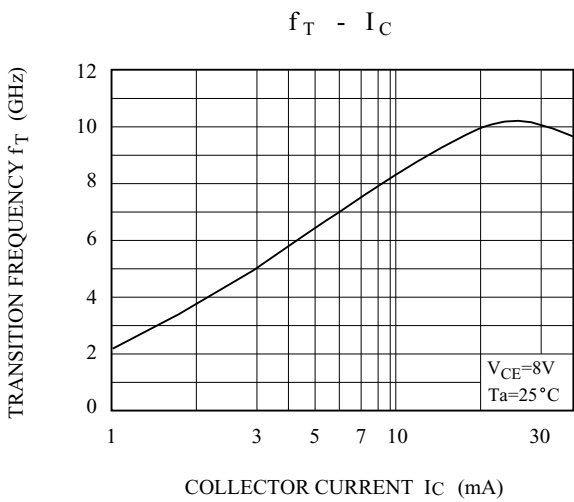
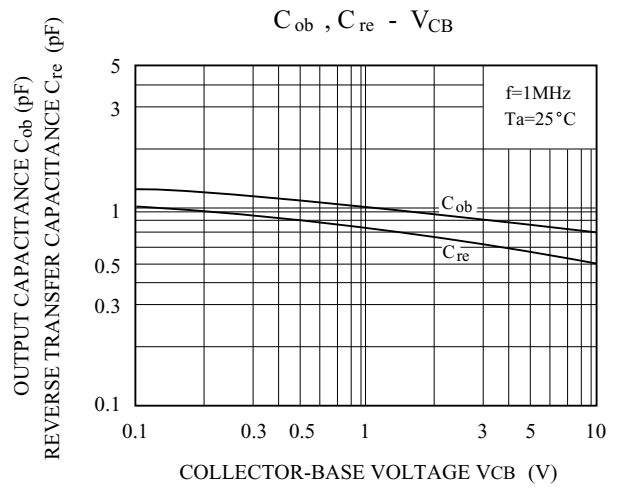
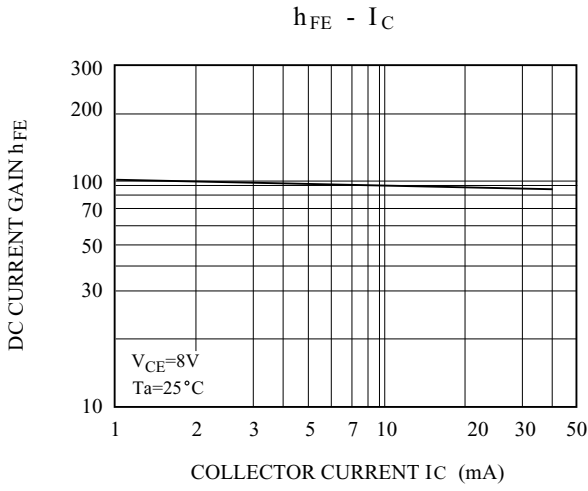


#### Marking

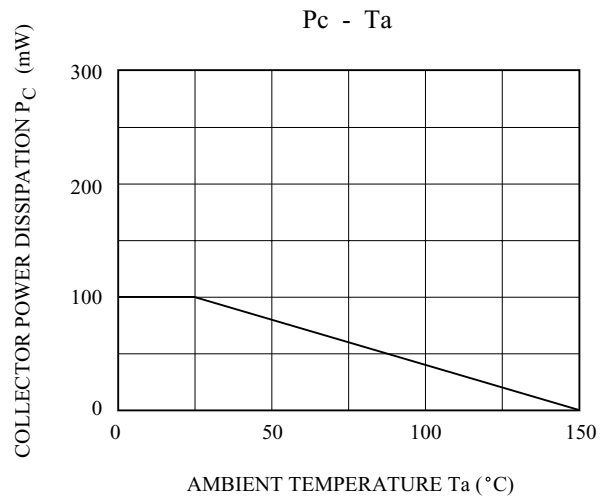
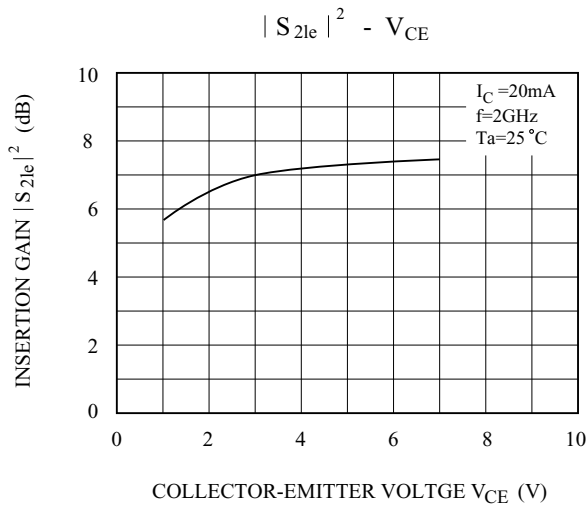


# KTC3605T

## TYPICAL CHARACTERISTICS (Ta=25°C)



# KTC3605T



## S-PARAMETER

( $V_{CE}=8V$ ,  $I_C=5mA$ ,  $Z_O=50$  ,  $T_a=25$  )

Frequency (MHz)	$ S_{11} $		$ S_{21} $		$ S_{12} $		$ S_{22} $	
	Mag.	Ang.	Mag.	Ang.	Mag.	Ang.	Mag.	Ang.
200	0.683	-50.1	10.186	138.3	0.049	62.0	0.773	-30.0
400	0.462	-86.9	7.472	114.6	0.071	54.3	0.556	-39.6
600	0.343	-113.1	5.618	100.9	0.086	53.8	0.448	-41.7
800	0.282	-133.6	4.407	91.7	0.101	55.3	0.392	-41.6
1000	0.249	-151.0	3.663	84.7	0.115	57.2	0.360	-41.7
1200	0.236	-166.6	3.128	78.7	0.131	58.9	0.339	-41.7
1400	0.233	179.7	2.759	73.1	0.150	60.1	0.330	-42.8
1600	0.234	168.3	2.457	68.2	0.168	60.0	0.319	-45.0
1800	0.238	158.6	2.224	63.4	0.185	60.0	0.311	-47.9
2000	0.251	149.6	2.038	59.4	0.203	60.4	0.302	-50.2

( $V_{CE}=8V$ ,  $I_C=20mA$ ,  $Z_O=50$  ,  $T_a=25$  )

Frequency (MHz)	$ S_{11} $		$ S_{21} $		$ S_{12} $		$ S_{22} $	
	Mag.	Ang.	Mag.	Ang.	Mag.	Ang.	Mag.	Ang.
200	0.319	-91.9	18.338	116.7	0.033	65.3	0.494	-43.5
400	0.213	-134.2	10.303	99.2	0.054	68.9	0.312	-42.4
600	0.185	-160.0	7.111	90.3	0.076	70.8	0.258	-37.6
800	0.176	-178.2	5.415	84.3	0.098	71.2	0.236	-34.3
1000	0.174	167.8	4.400	79.2	0.120	71.1	0.228	-32.0
1200	0.178	156.8	3.712	74.8	0.143	70.3	0.226	-31.5
1400	0.186	147.5	3.236	70.3	0.168	68.7	0.226	-32.8
1600	0.194	139.7	2.874	66.3	0.190	66.6	0.223	-35.9
1800	0.199	133.7	2.583	62.6	0.211	64.9	0.216	-39.0
2000	0.215	127.8	2.369	58.8	0.232	63.5	0.211	-41.9

# KTC3605T

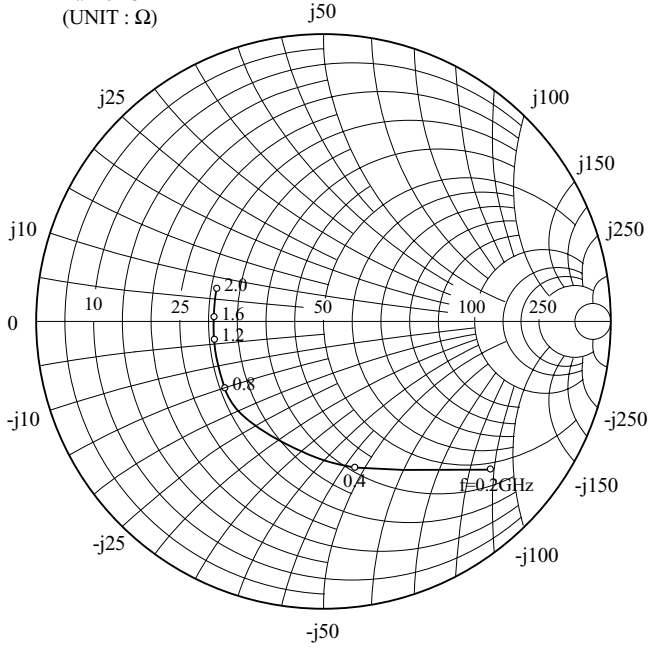
S<sub>11e</sub>

V<sub>CE</sub>=8V

I<sub>C</sub>=5mA

T<sub>a</sub>=25°C

(UNIT : Ω)

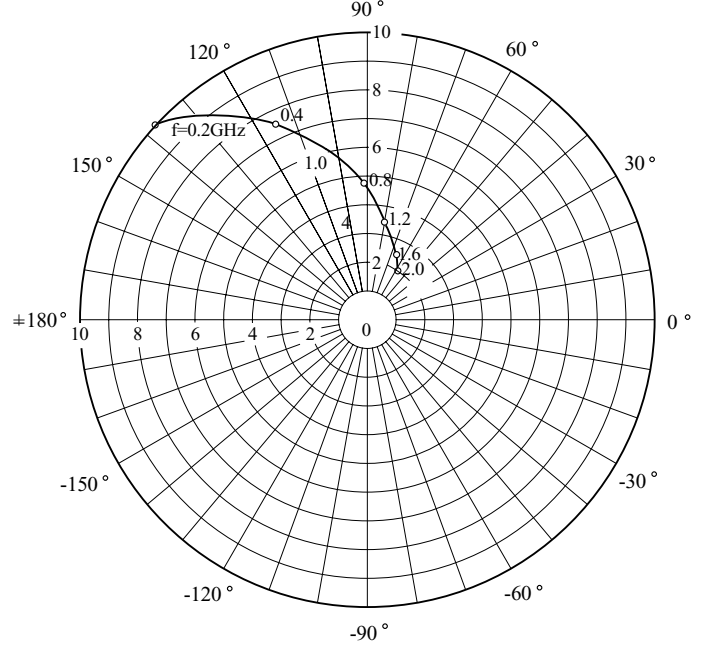


S<sub>21e</sub>

V<sub>CE</sub>=8V

I<sub>C</sub>=5mA

T<sub>a</sub>=25°C

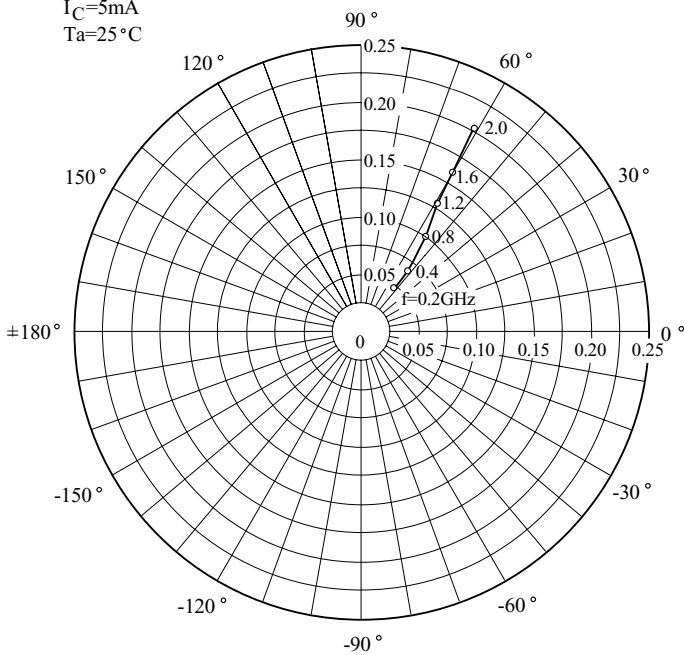


S<sub>12e</sub>

V<sub>CE</sub>=8V

I<sub>C</sub>=5mA

T<sub>a</sub>=25°C



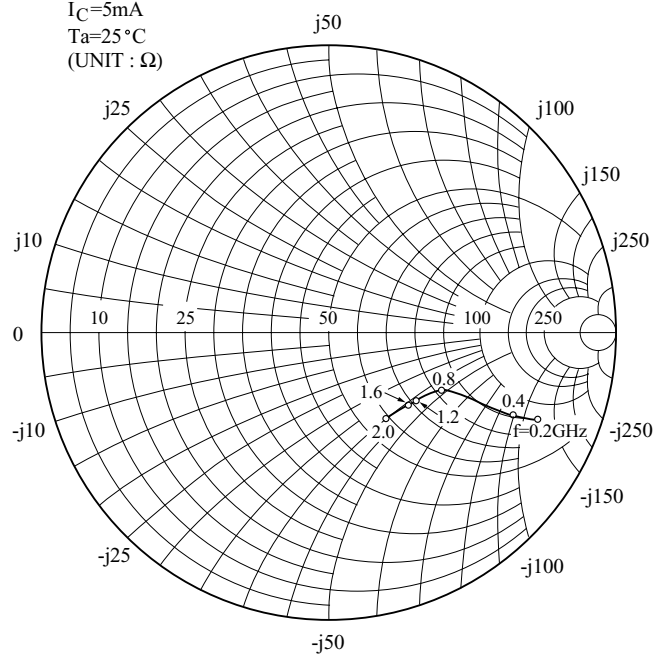
S<sub>22e</sub>

V<sub>CE</sub>=8V

I<sub>C</sub>=5mA

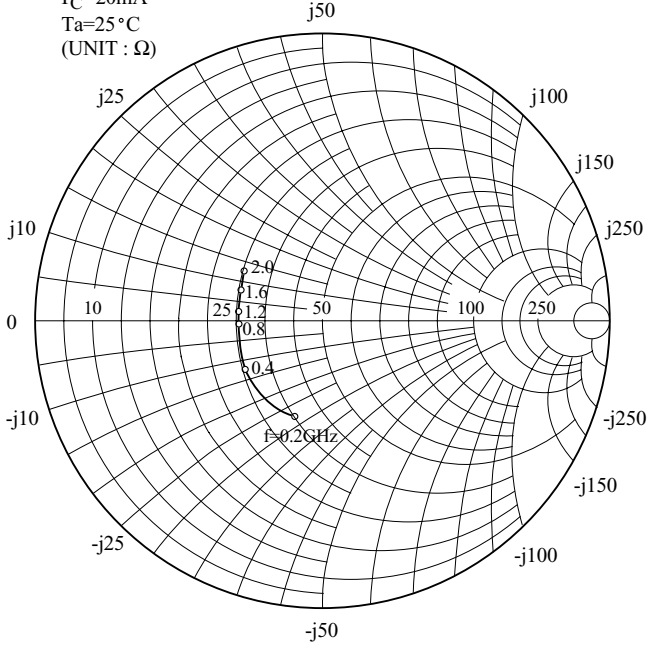
T<sub>a</sub>=25°C

(UNIT : Ω)

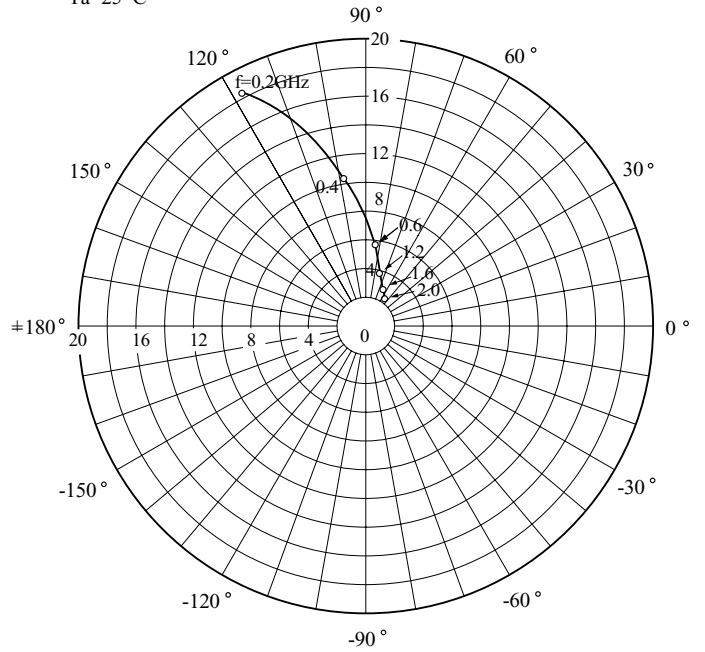


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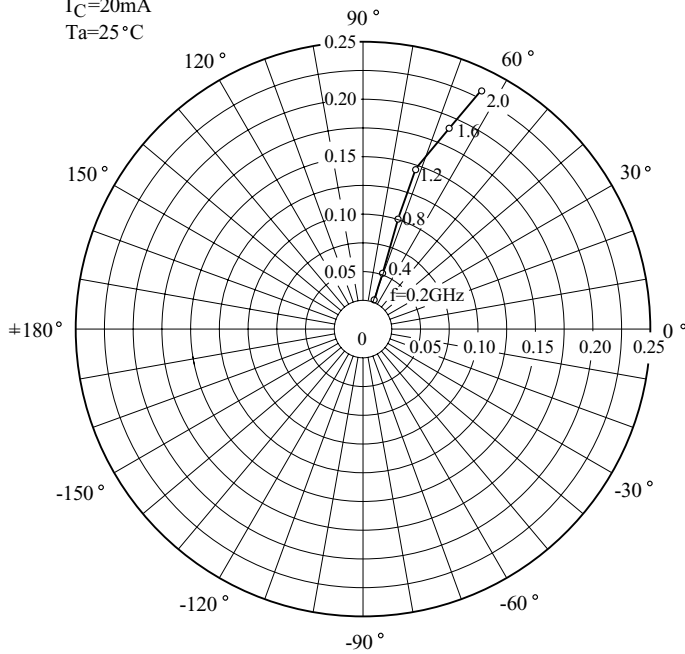
S11e  
 $V_{CE}=8V$   
 $I_C=20mA$   
 $T_a=25^\circ C$   
 (UNIT :  $\Omega$ )



S21e  
 $V_{CE}=8V$   
 $I_C=20mA$   
 $T_a=25^\circ C$



S12e  
 $V_{CE}=8V$   
 $I_C=20mA$   
 $T_a=25^\circ C$



S22e  
 $V_{CE}=8V$   
 $I_C=20mA$   
 $T_a=25^\circ C$   
 (UNIT :  $\Omega$ )

