

**PRELIMINARY**  
 Notice: This is not a final specification.  
 Some parametric limits are subject to change.

SMALL-SIGNAL TRANSISTOR

# 2SC5996B

FOR LOW FREQUENCY AMPLIFY APPLICATION  
 SILICON NPN EPITAXIAL TYPE

## DESCRIPTION

ISAHAYA 2SC5996B is a super mini package resin sealed silicon NPN epitaxial transistor for muting and switching application

## FEATURE

- High Emitter to Base voltage  $V_{EBO}=40V$
- High Reverse  $h_{FE}$
- Low ON RESISTANCE.  $R_{ON}=0.75$
- Small package for mounting

## APPLICATION

For muting, switching application

## MAXIMUM RATINGS (Ta=25 °C)

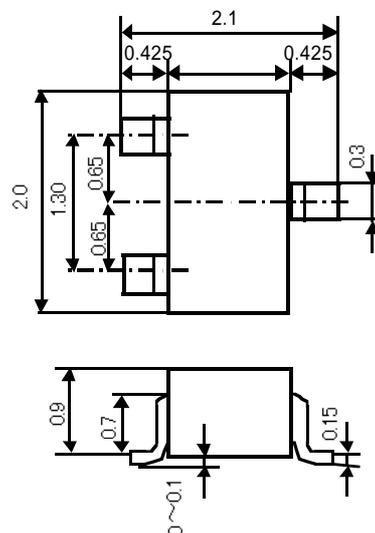
Symbol	Parameter	Ratings	Unit
V <sub>CB0</sub>	Collector to Base voltage	40	V
V <sub>CE0</sub>	Collector to Emitter voltage	9	V
V <sub>EBO</sub>	Emitter to Base voltage	40	V
I <sub>C</sub>	Collector current	200	mA
P <sub>C</sub>	Collector dissipation	150	mW
T <sub>j</sub>	Junction temperature	+125	
T <sub>stg</sub>	Storage temperature	-55 ~ +125	

## ELECTRICAL CHARACTERISTICS (Ta=25 °C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
I <sub>CB0</sub>	Collector cut off current	V <sub>CB</sub> =40V, I <sub>E</sub> =0mA			0.1	μA
I <sub>EBO</sub>	Emitter cut off current	V <sub>EB</sub> =40V, I <sub>C</sub> =0mA			0.1	μA
h <sub>FE</sub>	DC forward current gain	V <sub>CE</sub> =2V, I <sub>C</sub> =4mA	700		2200	
V <sub>CE(sat)</sub>	C to E saturation voltage	I <sub>C</sub> =30mA, I <sub>B</sub> =3mA		25		mV
f <sub>T</sub>	Gain bandwidth product	V <sub>CE</sub> =6V, I <sub>C</sub> =4mA		150		MHz
C <sub>ob</sub>	Collector output capacitance	V <sub>CB</sub> =10V, I <sub>E</sub> =0mA, f=1MHz		3.0		pF

## OUTLINE DRAWING

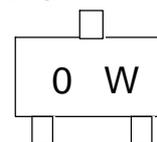
Unit : mm



JEITA SC-70

TERMINAL CONNECTOR  
 ○BASE  
 ○EMITTER  
 ○COLLECTOR

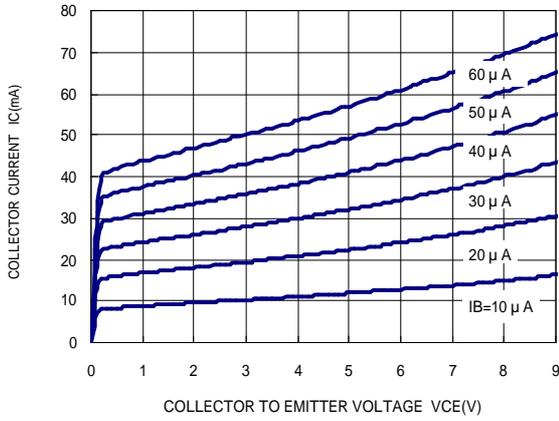
## MARKING



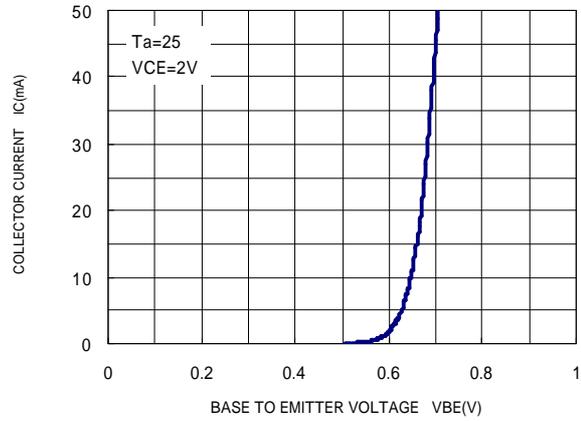
# 2SC5996B

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SILICON NPN EPITAXIAL TYPE

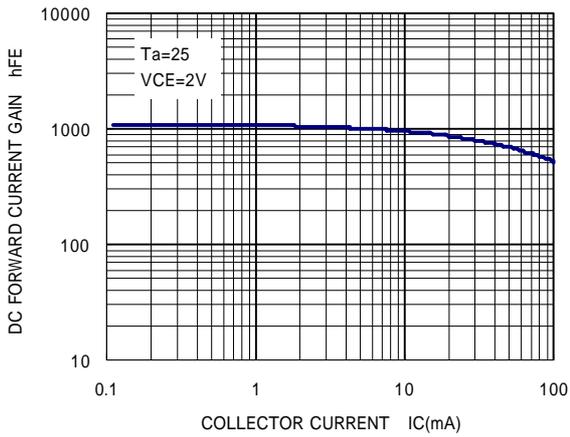
COMMON EMITTER OUTPUT



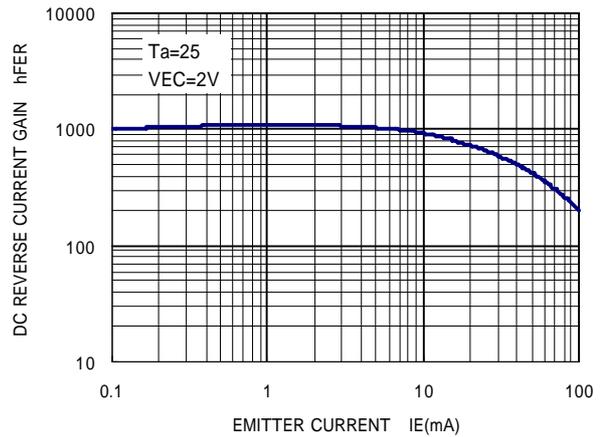
COMMON EMITTER TRANSFER



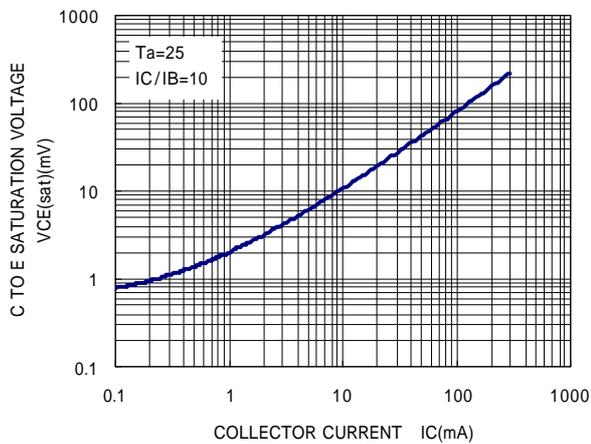
DC FORWARD CURRENT GAIN VS.COLLECTOR CURRENT



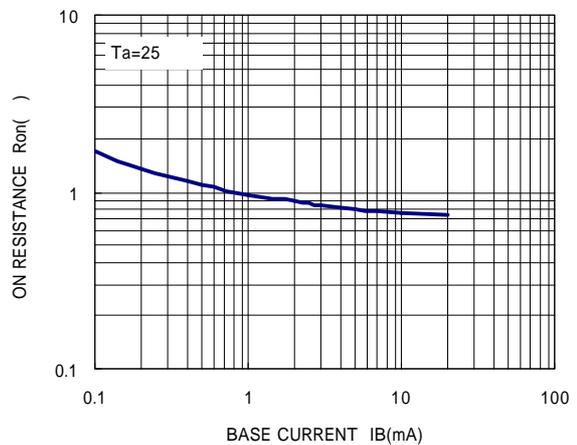
DC REVERSE CURRENT GAIN VS.COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



ON RESISTANCE VS.BASE CURRENT

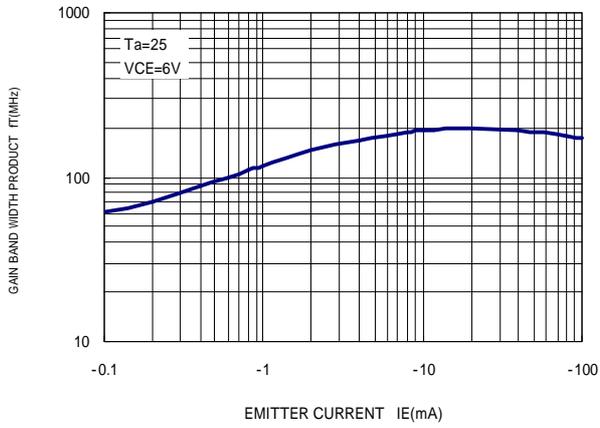


SMALL-SIGNAL TRANSISTOR

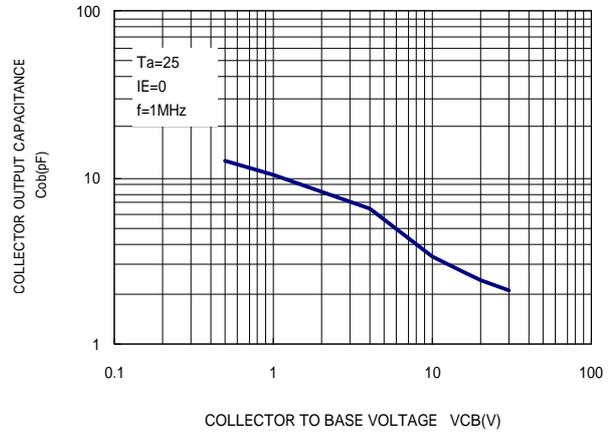
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FOR LOW FREQUENCY AMPLIFY APPLICATION  
SILICON NPN EPITAXIAL TYPE

GAIN BAND WIDTH PRODUCT VS.  
EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE  
VS. COLLECTOR TO BASE VOLTAGE





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