

2SC5395

For Low Frequency Power Amplify Application
Silicon NPN Epitaxial Type Micro (Frame type)

DESCRIPTION

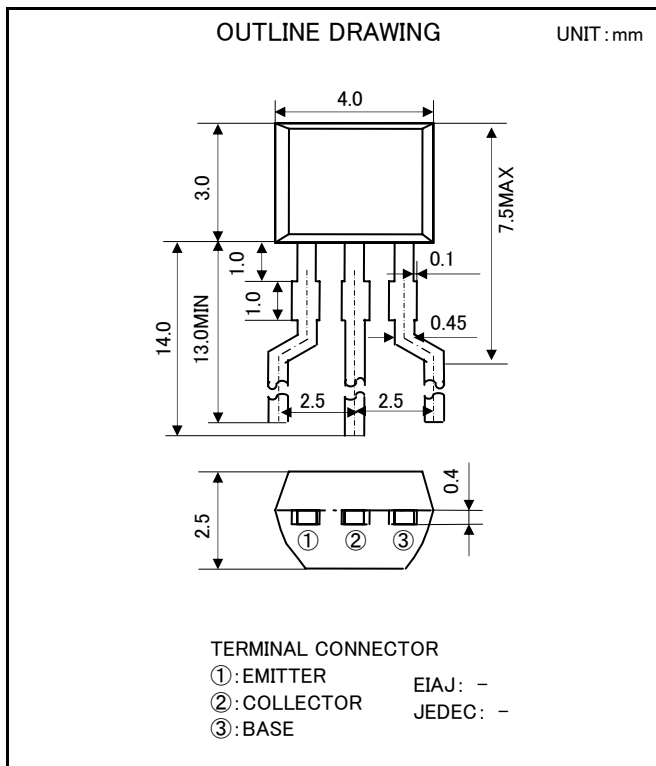
2SC5395 is a silicon NPN epitaxial type transistor. It is designed for low frequency voltage amplify application.

FEATURE

- Small collector to emitter saturation voltage.
 $V_{CE(sat)}=0.3V \text{ max (@ } I_C=100mA, I_B=10mA)$
- Excellent linearity of DC forward current gain
- Small package for easy mounting

APPLICATION

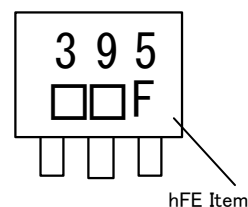
For small machine low frequency voltage amplify application.



MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings	Unit
V _{CB0}	Collector to Base voltage	50	V
V _{EB0}	Emitter to Base voltage	6	V
V _{CE0}	Collector to Emitter voltage	50	V
I _C	Collector current	200	mA
P _C	Collector dissipation	450	mW
T _J	Junction temperature	+150	°C
T _{stg}	Storage temperature	-55~+150	°C

MARKING



ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test conditions	Limits			Unit
			Min	Typ	Max	
V _{(BR)CEO}	C to B break down voltage	I _C = 100 μA , R _{BE} = ∞	50	-	-	V
I _{CBO}	Collector cut off current	V _{CB} = 50V , I _E = 0mA	-	-	0.1	μA
I _{EBO}	Emitter cut off current	V _{EB} = 6V , I _C = 0mA	-	-	0.1	μA
hFE	DC forward current gain ※	V _{CE} = 6V , I _C = 1mA	150	-	500	-
hFE	DC forward current gain	V _{CE} = 6V , I _C = 0.1mA	50	-	-	-
V _{CE(sat)}	C to E Saturation Voltage	I _C = 100mA , I _B = 10mA	-	-	0.3	V
f _T	Gain bandwidth product	V _{CE} = 6V , I _E = -10mA	-	200	-	MHz
C _{ob}	Collector output capacitance	V _{CB} = 6V , I _E = 0mA, f=1MHz	-	2.5	-	pF
NF	Noise figure	V _{CE} = 6V , I _E = -0.1mA, f=1kHz, R _G =2kΩ	-	-	15	dB

※ : It shows hFE classification at right table.

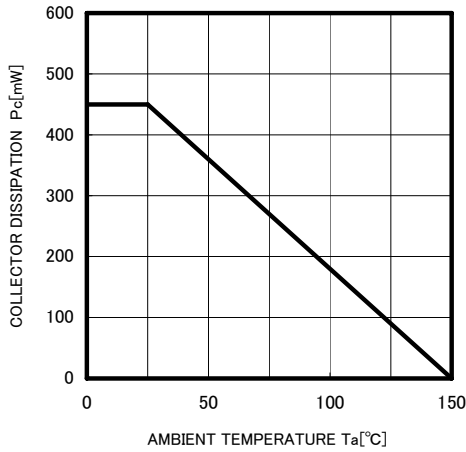
Item	E	F
hFE	150~300	250~500

2SC5395

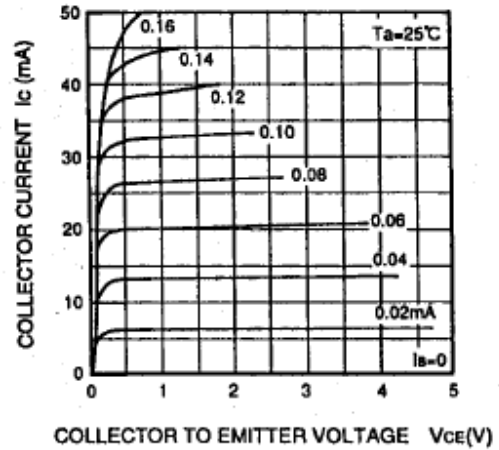
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TYPICAL CHARACTERISTICS

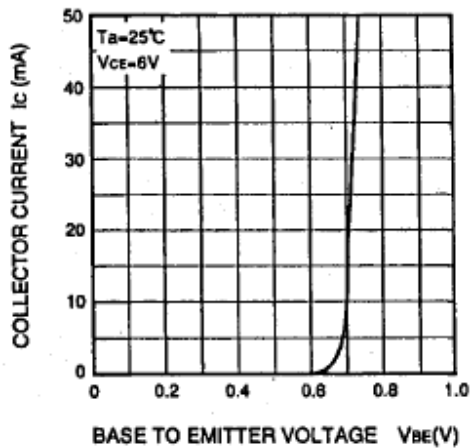
COLLECTOR DISSIPATION VS AMBIENT TEMPERATURE



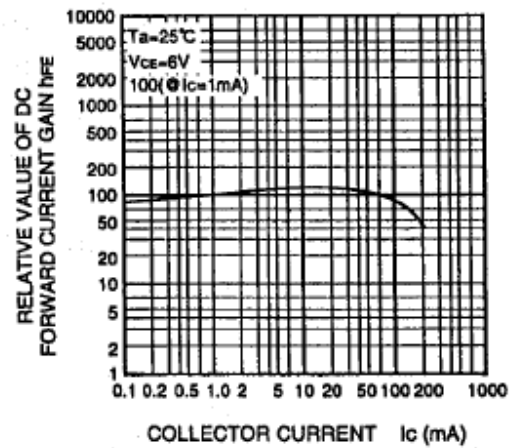
COMMON EMITTER OUTPUT



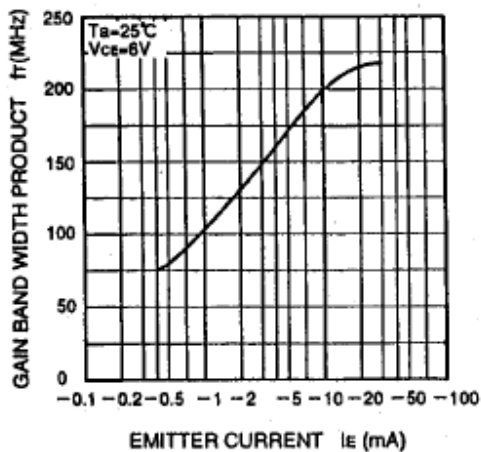
COMMON EMITTER TRANSFER



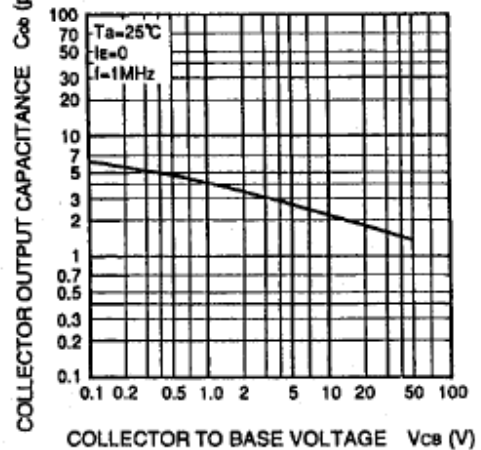
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT

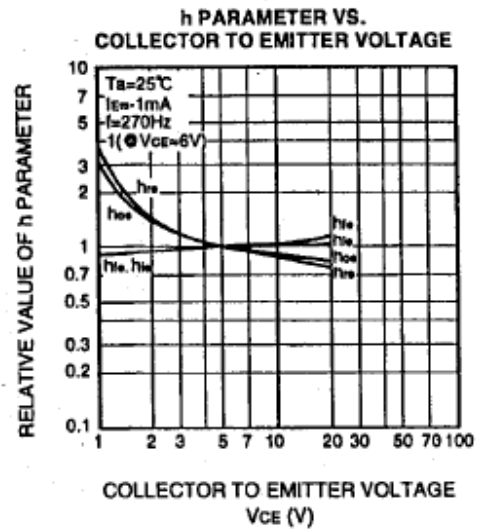
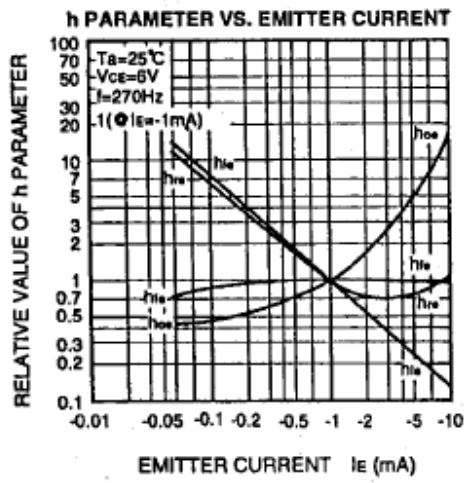


COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE



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COMMON EMITTER h PARAMETER (TYPICAL VALUE)

Symbol	Parameter	Test conditions	Limits	Unit
h_{ie}	Closed loop small signal input impedance	$T_a = 25^\circ\text{C}$ $V_{CE} = 6\text{V}$ $I_e = 1\text{mA}$ $f = 270\text{Hz}$	8.5	k Ω
h_{re}	Open loop small signal reverse voltage amplification factor		0.1	$\times 10^{-3}$
h_{fe}	Closed loop small signal forward current amplification factor		300	—
h_{oe}	Open loop small signal output admittance		5.5	μS



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