〈transistor〉

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

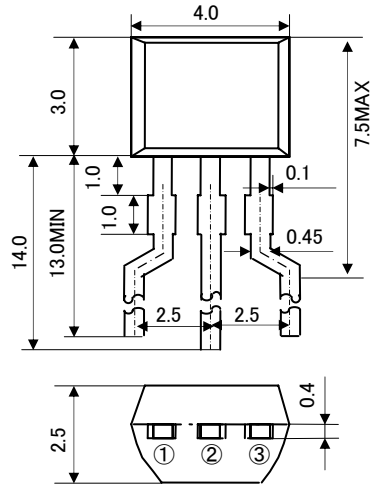
- Small collector to emitter saturation voltage. $V_{CE(sat)}$=0.3V max (@ I_C=100mA, I_B=10mA)
- Excellent linearity of DC foward current gain
- Small package for easy mounting

APPLICATION

For small machine low frequency voltage amplify application.

OUTLINE DRAWING

UNIT : mm



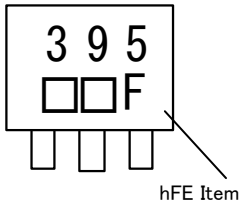
TERMINAL CONNECTOR
①:EMITTER
②:COLLECTOR
③:BASE

EIAJ: –
JEDEC: –

MAXIMUM RATINGS(Ta=25℃)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	50	V
V_{EBO}	Emitter to Base voltage	6	V
V_{CEO}	Collector to Emitter voltage	50	V
I_C	Collector current	200	mA
P_C	Collector dissipation	450	mW
Tj	Junction temperature	+150	℃
Tstg	Storage temperature	−55～+150	℃

MARKING



ELECTRICAL CHARACTERISTICS(Ta=25℃)

Parameter	Symbol	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	C to B break down voltage	I_C= 100μA , 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	–	–	–
VCE(sat)	C to E Saturation Vlotage	I_C = 100mA , I_B= 10mA	–	–	0.3	V
fT	Gain bandwidth product	V_{CE}= 6V , I_E= −10mA	–	200	–	MHz
Cob	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

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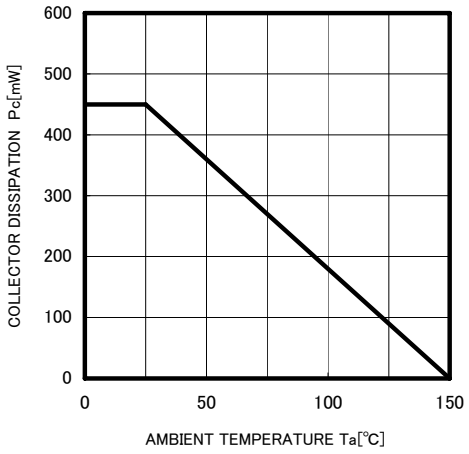
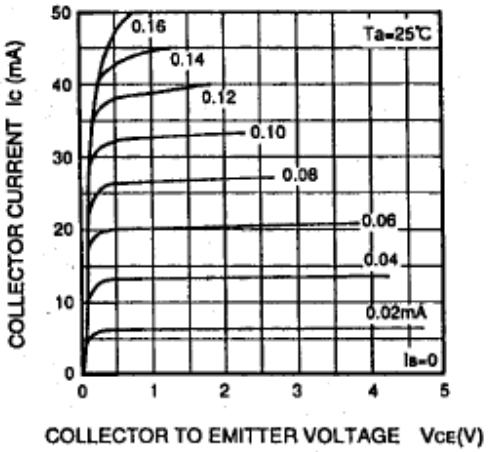
TYPICAL CHARACTERISTICS

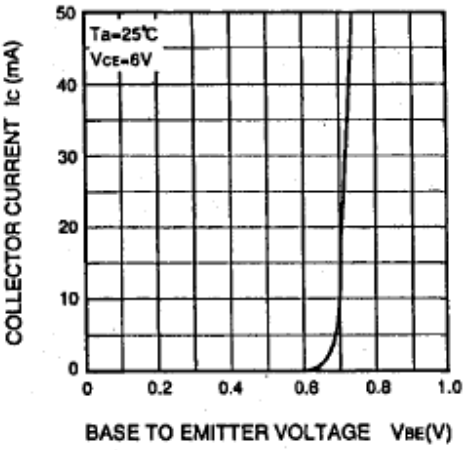
COLLECTOR DISSIPATION VS AMBIENT TEMPERATURE



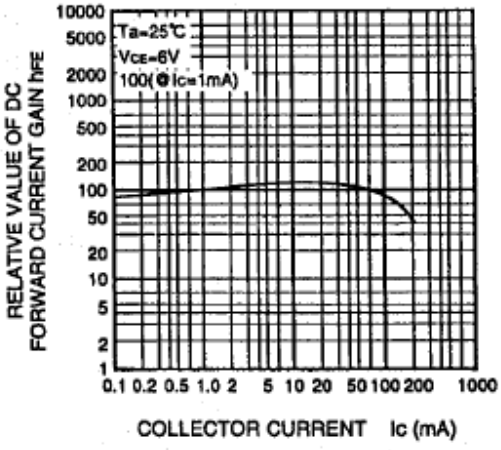
COMMON EMITTER OUTPUT



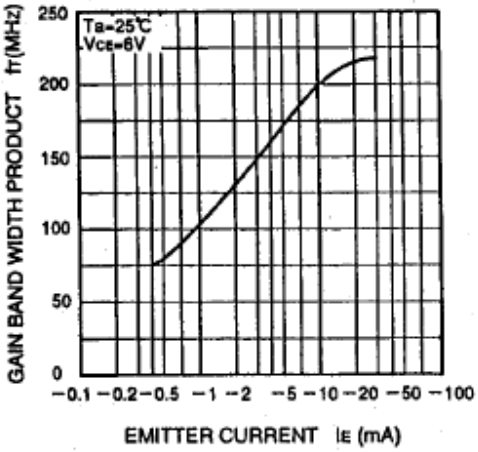
COMMON EMITTER TRANSFER



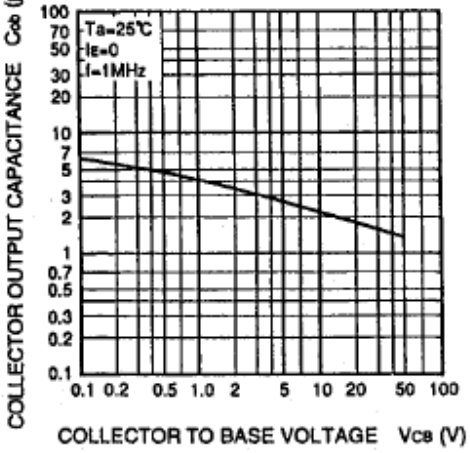
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE



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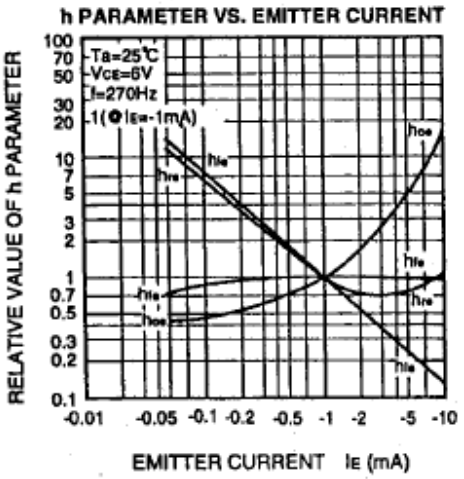

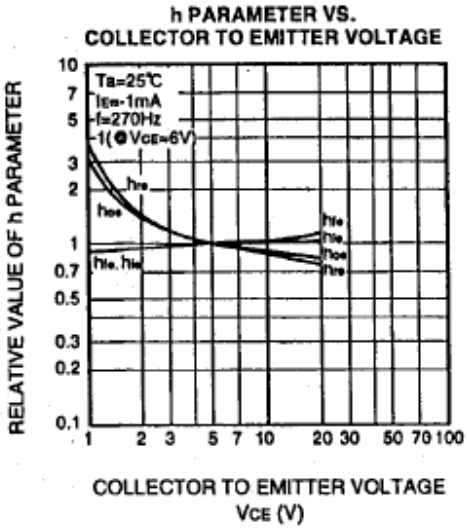

COMMON EMITTER h PARAMETER (TYPICAL VALUE)

Symbol	Parameter	Test conditions	Limits	Unit
h_{ie}	Closed loop small signal input impedance	Ta=25℃ VCE=6V IE=-1mA f=270Hz	8.5	kΩ
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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