〈Transistor〉

DEVELOPING

2SC5814, 2SC5815, 2SC5816, 2SC5817

For Low Frequency Amplify Application
Silicon NPN Epitaxial Type

DESCRIPTION

2SC5814, 2SC5815, 2SC5816, 2SC5817 is a super mini package silicon NPN epitaxial type transistor. It is designed for low frequency voltage amplify application.

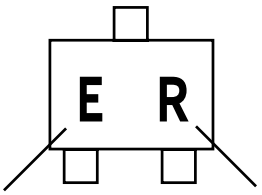
FEATURE

- Facilitates miniaturization and high-density mounting
- Excellent linearity of DC forward current gain
- Low collecter to emitter saturation voltage
  $V_{CE(sat)}$=0.3V max (I_C=30mA, I_B=1.5mA)

APPLICATION

For hybrid IC , small type machine low frequency voltage amplify application

MARKING

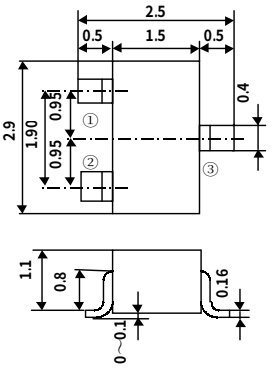


TYPE NAME h_{FE} ITEM

OUTLINE DRAWING

Unit : mm

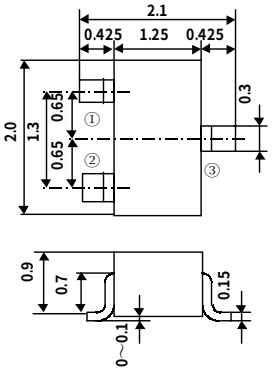
2SC5814



JEITA : SC-59
JEDEC : similar to TO-236

Electrode connections
①: base
②: emitter
③: collecter

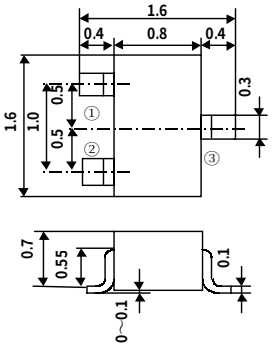
2SC5815



JEITA : SC-70
JEDEC : —

Electrode connections
①: base
②: emitter
③: collecter

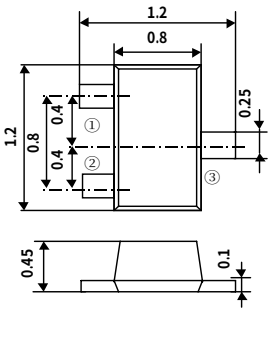
2SC5816



JEITA : —
JEDEC : —

Electrode connections
①: base
②: emitter
③: collecter

2SC5817



JEITA : —
JEDEC : —

Electrode connections
①: base
②: emitter
③: collecter

MAXIMUM RATINGS (Ta=25°C)

SYMBOL	PARAMETER	RATINGS				UNIT
		2SC5814	2SC5815	2SC5816	2SC5817	
V_{CBO}	Collector to Base voltage	60				V
V_{EBO}	Emitter to Base voltage	6				V
V_{CEO}	Collector to Emitter voltage	60				V
I_C	Collector current	125				mA
P_C	Collector dissipation	150		125	100	mW
T_j	Junction temperature	+125				°C
T_{stg}	Storage temperature	-55～+125				°C

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ELECTRICAL CHARACTERISTICS (Ta=25°C)

SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	C to E break down voltage	I_C=100uA, R_{BE}=∞	60			V
I_{CBO}	Collector cut off current	V_{CB}=60V, I_E=0mA			0.5	μA
I_{EBO}	Emitter cut off current	V_{EB}=4V, I_C=0mA			0.5	μA
h_{FE} ＊	DC forward current gain	V_{CE}=6V, I_C=1mA	120		560	-
h_{FE}	DC forward current gain	V_{CE}=6V, I_C=0.1mA	70			-
$V_{CE(sat)}$	C to E saturation voltage	I_C=30mA, I_B=1.5mA			0.3	V
f_T	Gain band width product	V_{CE}=6V, I_E=-10mA		200		MHz
Cob	Collector output capacitance	V_{CB}=6V, I_E=0mA, f=1MHz		1.5		pF

＊ It shows h_{FE} classification in right table.

Item	Q	R	S
h_{FE}	120～270	180～390	270～560
Marking	EQ	ER	ES

Item	E	F
h_{FE}	150～300	250～500
Marking	EE	EF

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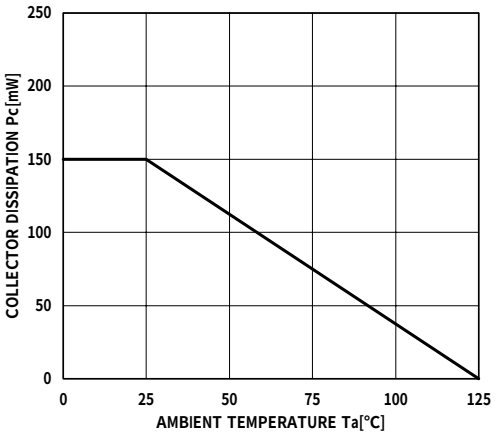
Silicon NPN Epitaxial Type

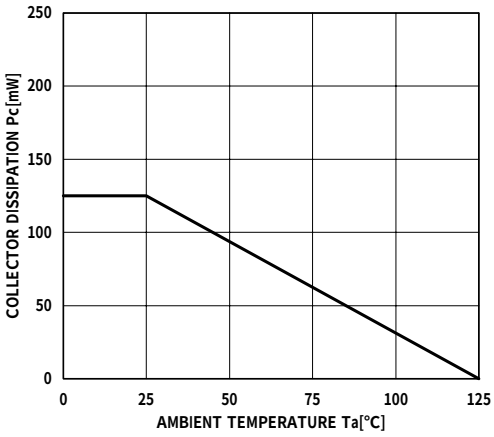
2SC5814 2SC5815

COLLECTOR DISSIPATION VS.
AMBIENT TEMPERATURE



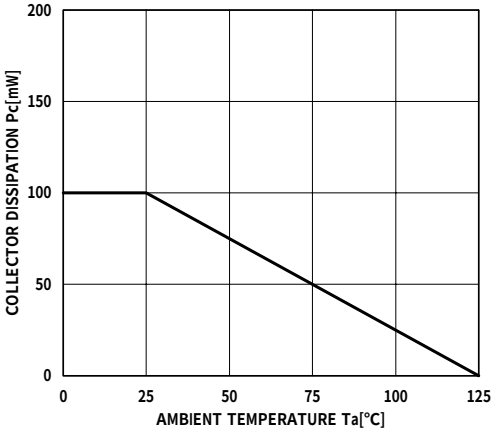
2SC5816

COLLECTOR DISSIPATION VS.
AMBIENT TEMPERATURE



2SC5817

COLLECTOR DISSIPATION VS.
AMBIENT TEMPERATURE



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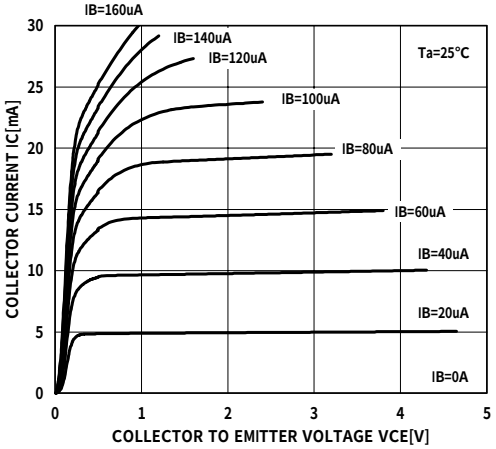
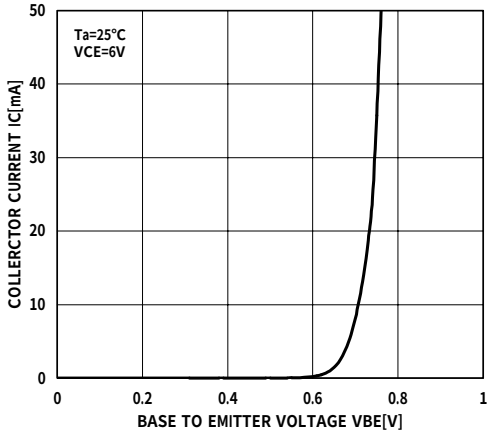
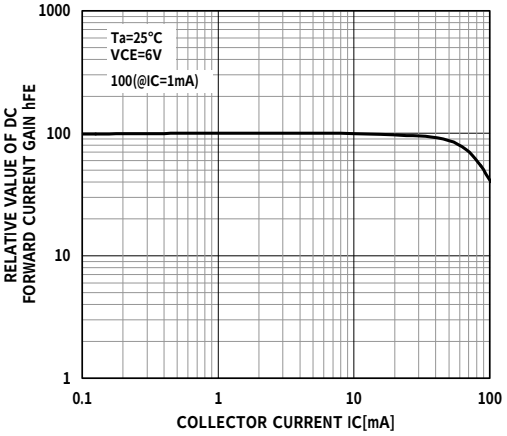
COMMON EMITTER OUTPUT



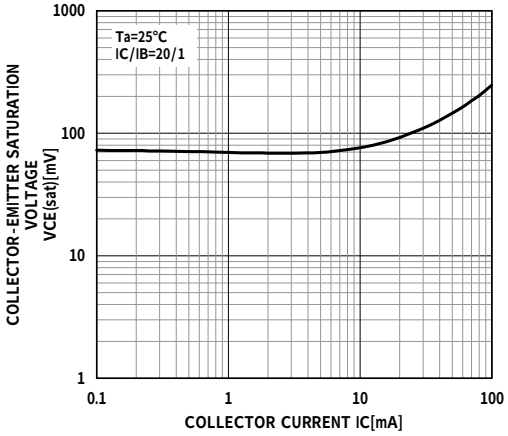
COMMON EMITTER TRANSFER



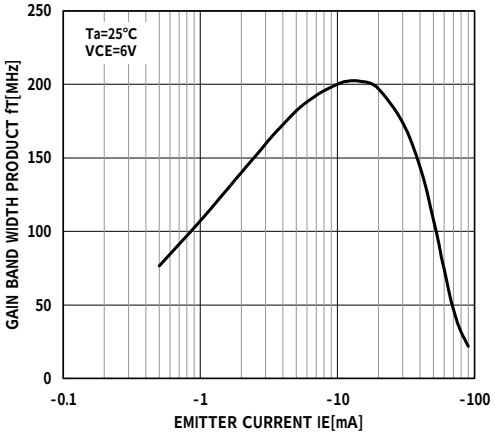
DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



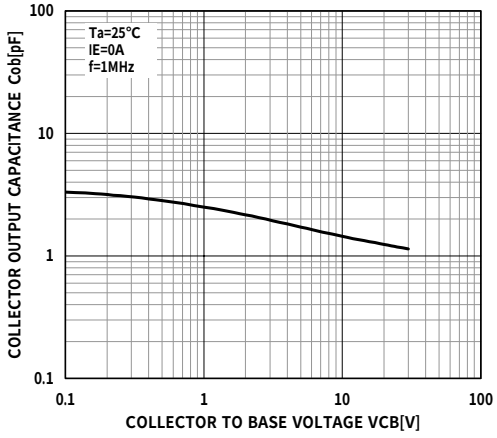
COLLECTOR-EMITTER SATURATION VOLTAGE
VS COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT
VS. EMITTER CURRENT



COLLERCTOR OUTPUT CAPACITANCE
VS. COLLECTOR TO BASE VOLTAGE



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Jan.2003