

RT1A3906-T122

FOR LOW FREQUENCY AMPLIFY APPLICATION
SILICON PNP EPITAXIAL TYPE(mini type)

DESCRIPTION

RT1A3906 is a super mini package resin sealed silicon PNP epitaxial transistor, It is designed for low frequency voltage application.

FEATURE

- Excellent linearity of DC forward gain.
 - Super mini package for easy mounting
 - Small collector to emitter saturation voltage.
- $V_{CE(sat)} = -0.4V_{max}$ ($I_C = -50mA, I_B = -5mA$)

APPLICATION

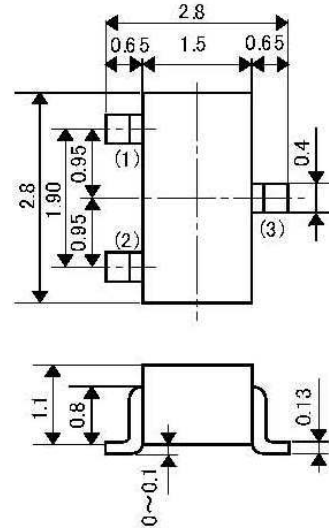
For Hybrid IC, small type machine low frequency voltage Amplify application.

MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	-60	V
V_{CEO}	Collector to Emitter voltage	-40	V
V_{EBO}	Emitter to Base voltage	-6	V
I_C	Collector current	200	mA
P_c	Collector dissipation	150	mW
T_j	Junction temperature	+150	°C
T_{stg}	Storage temperature	-55 ~ +150	°C

OUTLINEDRAWING

unit : mm



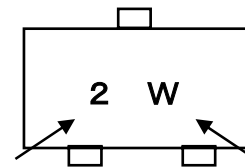
Terminal connection

- ①: Base
- ②: Emitter
- ③: Collector

JEITA: SC-59

JEDEC : TO-236resemble

Marking Figure



Abbreviation

hFE Item

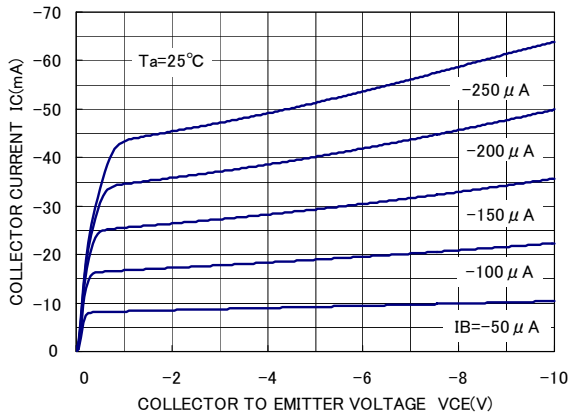
for Kind

ELECTRICAL CHARACTERISTICS (Ta=25°C)

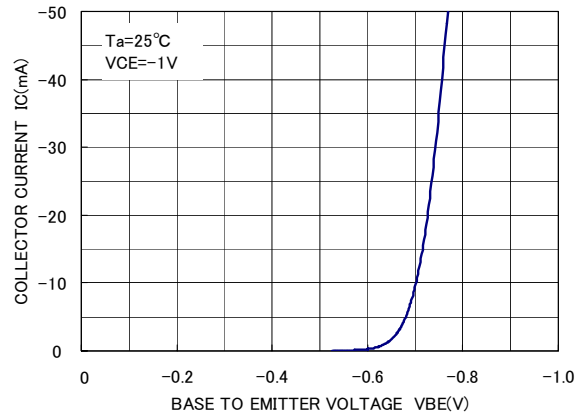
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Min	Min	
$V_{(BR)CEO}$	C to E break down voltage	$I_C = -1mA, R_{BE} = \infty$	-40			V
$V_{(BR)CBO}$	C to B break down voltage	$I_C = -10\mu A, I_E = 0$	-60			V
$V_{(BR)EBO}$	E to B break down voltage	$I_E = -10\mu A, I_C = 0$	-6			V
I_{BL}	Base cut off current	$V_{CE} = -30V, V_{EB} = -3V$			-50	nA
I_{CEX}	Collector cut off current	$V_{CE} = -30V, V_{EB} = -3V$			-50	nA
hFE	DC forward current gain	$V_{CE} = -1V, I_C = -10mA$	100		300	
$V_{CE(sat)}$	C to E Saturation Voltage	$I_C = -50mA, I_B = -5mA$	-		-400	mV
$V_{BE(sat)}$	B to E Saturation Voltage	$I_C = -50mA, I_B = -5mA$	-		-950	mV
fT	Gain bandwidth product	$V_{CE} = -20V, I_C = -10mA, f = 100MHz$	250		-	MHz
C_{ob}	Collector output capacitance	$V_{CB} = -5V, I_E = 0, f = 1MHz$	-		5.0	pF

RT1A3906-T122

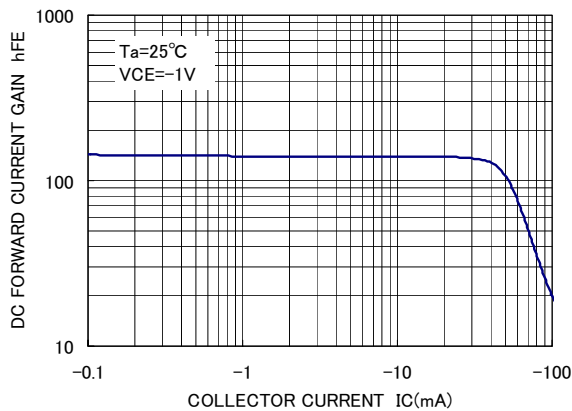
COMMON EMITTER OUTPUT



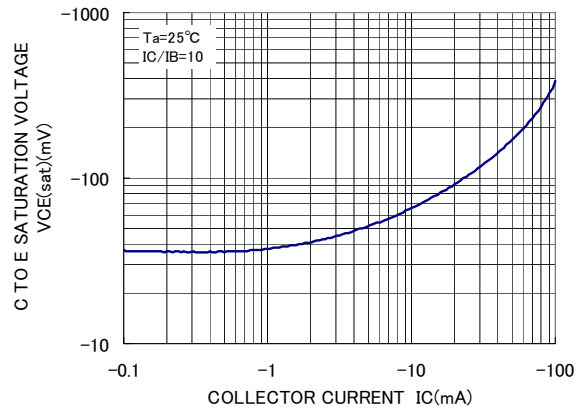
COMMON EMITTER TRANSFER



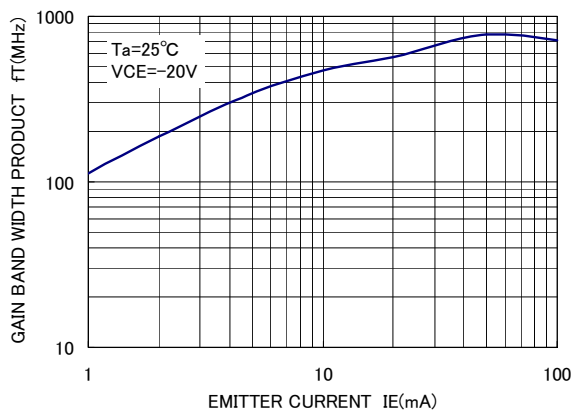
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



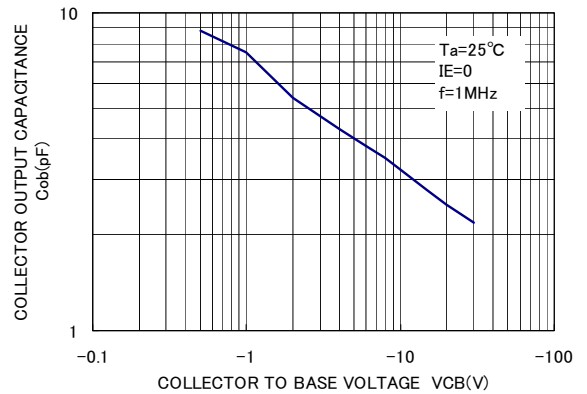
COLLECTOR EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE





Marketing division, Marketing planning department

6-41 Tsukuba, Isahaya, Nagasaki, 854-0065 Japan

Keep safety first in your circuit designs!

·ISAHAYA Electronics Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (1) placement of substitutive, auxiliary, (2) use of non-flammable material or (3) prevention against any malfunction or mishap.

Notes regarding these materials

- These materials are intended as a reference to our customers in the selection of the ISAHAYA products best suited to the customer's application; they don't convey any license under any intellectual property rights, or any other rights, belonging ISAHAYA or third party.
- ISAHAYA Electronics Corporation assumes no responsibility for any damage, or infringement of any third party's rights, originating in the use of any product data, diagrams, charts or circuit application examples contained in these materials.
- All information contained in these materials, including product data, diagrams and charts, represent information on products at the time of publication of these materials, and are subject to change by ISAHAYA Electronics Corporation without notice due to product improvements or other reasons. It is therefore recommended that customers contact ISAHAYA Electronics Corporation or an authorized ISAHAYA products distributor for the latest product information before purchasing product listed herein.
- ISAHAYA Electronics Corporation products are not designed or manufactured for use in a device or system that is used under circumstances in which human life is potentially at stake. Please contact ISAHAYA electronics corporation or an authorized ISAHAYA products distributor when considering the use of a product contained herein for any specific purposes, such as apparatus or systems for transportation, vehicular, medical, aerospace, nuclear, or undersea repeater use.
- The prior written approval of ISAHAYA Electronics Corporation is necessary to reprint or reproduce in whole or in part these materials.
- If these products or technologies are subject to the Japanese export control restrictions, they must be exported under a license from the Japanese government and cannot be imported into a country other than the approved destination. Any diversion or re-export contrary to the export control laws and regulations of Japan and/or the country of destination is prohibited.
- Please contact ISAHAYA Electronics Corporation or authorized ISAHAYA products distributor for further details on these materials or the products contained therein.