〈SMALL-SIGNAL TRANSISTOR〉

ISC3242AS1

FOR LOW FREQUENCY POWOR AMPLIFY APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

ISC3242AS1 is a silicon NPN epitaxial type transistor designed for small type motor drive, solenoid drive and power supply application.

Complementary with 2SA1998.

FEATURE

●High collector current. I_C=2A

●Low V_{CE}(sat).

V_{CE}(sat)=0.17V typ (@I_C=1A)

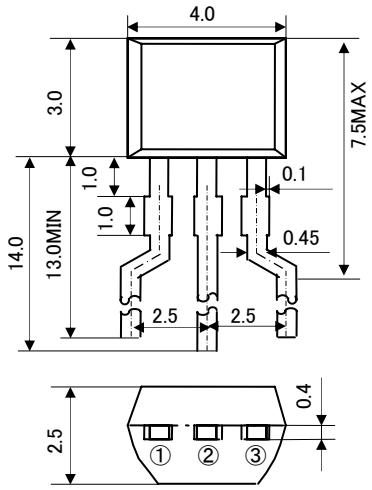
●High hFE hFE=150 to 800

●High collector dissipation. P_C=600mW

APPLICATION

Small type motor drive, power supply for VCR, deck, player.

OUTLINE DRAWING Unit:mm



JEITA:
JEDEC:

TERMINAL CONNECTER
①:EMITTER
②:COLLECTOR
③:BASE

MAXIMUM RATINGS(Ta=25℃)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	20	V
V_{EBO}	Emitter to Base voltage	6	V
V_{CEO}	Collector to Emitter voltage	20(16)※1	V
I_C	Collector current	2	A
I_{CM}	Peak collector current	3	A
P_c	Collector dissipation	600	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

ELECTRICAL CHARACTERISTICS(Ta=25℃)

Parameter	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	I_C= 10μA , I_E =0mA	20	−	−	V
$V_{(BR)EBO}$	E to B break down voltage	I_E= 10μA , I_C =0mA	6	−	−	V
$V_{(BR)CEO}$	C to E break down voltage	I_C=2mA , R_{BE}= ∞	20(16) ※1	−	−	V
ICBO	Collector cut off current	V_{CB}= 16V , I_E= 0mA	−	−	0.2	μA
IEBO	Emitter cut off current	V_{EB}= 4V , I_C= 0mA	−	−	0.2	μA
hFE※2	DC forward current gain	V_{CE} = 4V , I_C=100mA	150	−	800	−
VCE(sat)	C to E Saturation Voltage	I_C= 1A , I_B=50mA	−	0.17	0.3	V
fT	Gain band width product	V_{CE}=2V , I_E= −10mA	−	80	−	MHz
Cob	Collector output capacitance	V_{CB}= 10V , I_E= 0mA,f=1MHz	−	28	−	pF

※1:( ) shows value of item G .

※2:It shows hFE classification in right table.

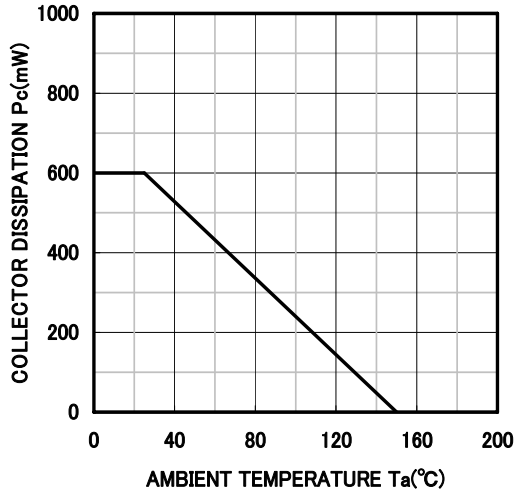
Item	E	F	G
hFE item	150～300	250～500	400～800

ISC3242AS1

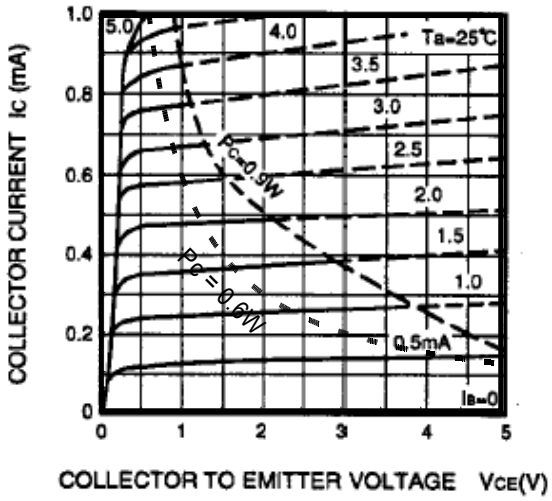
FOR LOW FREQUENCY POWOR AMPLIFY APPLICATION
SILICON NPN EPITAXIAL TYPE

TYPICAL CHARACTERISTICS

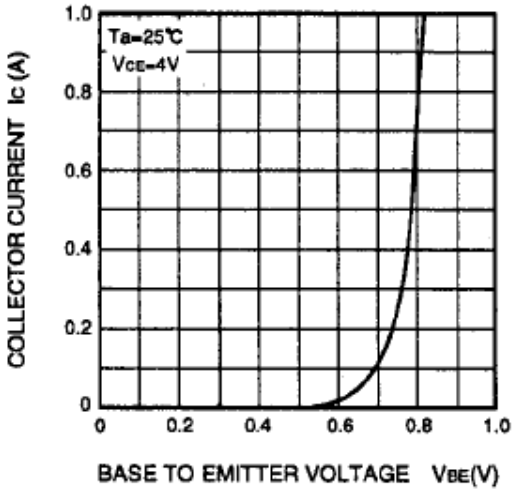
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



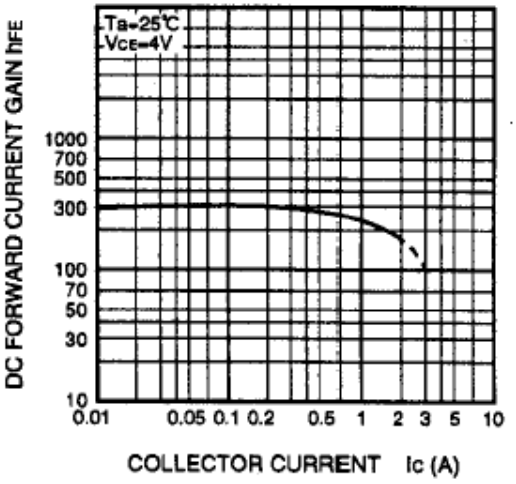
COMMON EMITTER OUTPUT



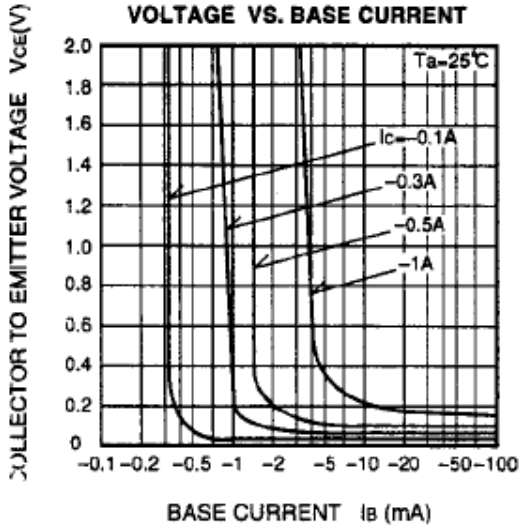
COMMON EMITTER TRANSFER



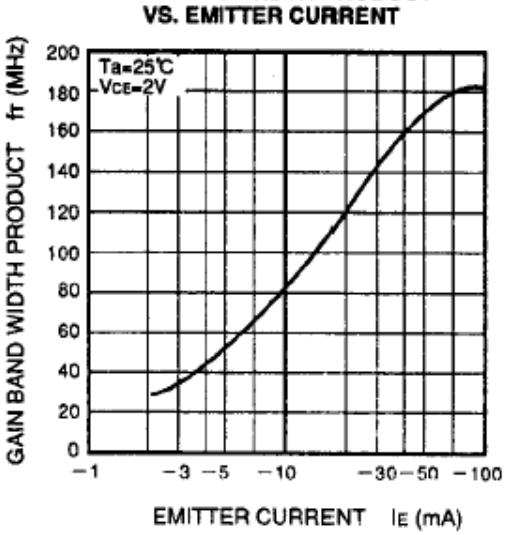
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. BASE CURRENT

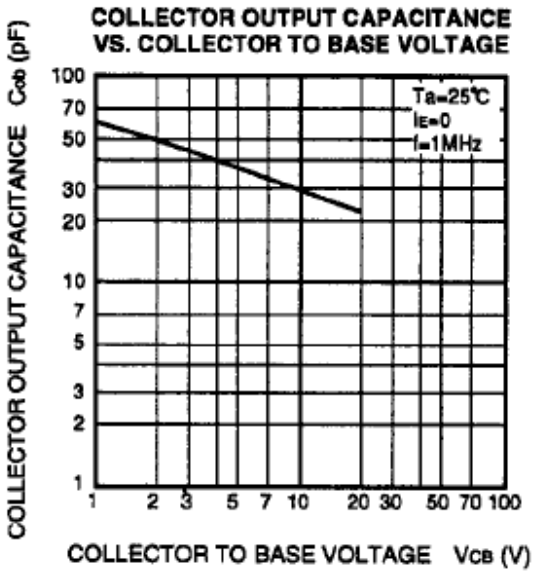


GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



ISC3242AS1

FOR LOW FREQUENCY POWOR AMPLIFY APPLICATION
SILICON NPN EPITAXIAL TYPE



ISAHAYA ELECTRONICS CORPORATION

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-farmable 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.

Apr.2012