

<Transistor>

2SA2002

For High Current Application
Silicon PNP Epitaxial Type Micro(Frame type)

DESCRIPTION

2SA2002 is a silicon PNP epitaxial type transistor designed with high collector current, small $V_{CE(sat)}$.

FEATURE

- High collector current
 $I_{CM} = -1000\text{mA}$
- Low collector to emitter saturation voltage
 $V_{CE(sat)} = -0.25\text{V typ}$
- Excellent linearity of DC forward current gain
- High gain band width product
 $f_T = 180\text{MHz typ}$
- High collector dissipation
 $P_C = 600\text{mW}$

APPLICATION

Small type motor drive, relay drive, power supply application.

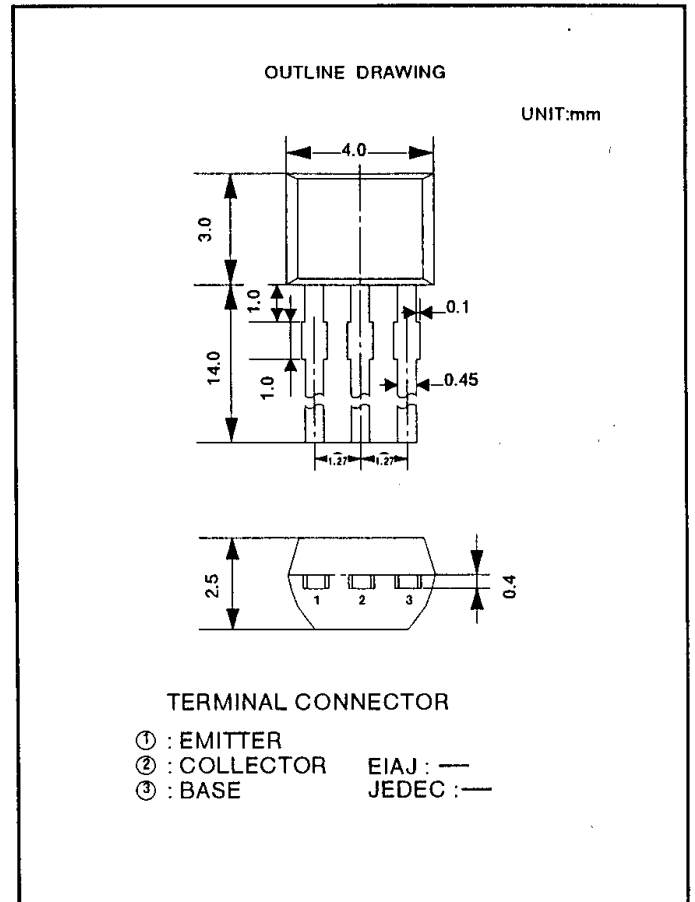
MAXIMUM RATINGS (Ta=25°C)

SYMBOL	PARAMETER	RATINGS	UNIT
V _{CB0}	Collector to Base voltage	-25	V
V _{EB0}	Emitter to Base voltage	-4	V
V _{CE0}	Collector to Emitter voltage	-20	V
I _{CM}	Peak collector current	-1000	mA
I _C	Collector current	-700	mA
P _C	Collector to Base voltage	600	mW
T _J	Junction temperature	+150	°C
T _{stg}	Storage temperature	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
V _{(BR)CBO}	C to B break down voltage	I _C = -10 μA, I _E = 0	-25			V
V _{(BR)EBO}	E to B break down voltage	I _E = -10 μA, I _C = 0	-4			V
V _{(BR)CEO}	C to E break down voltage	I _C = -100 μA, R _{BE} = ∞	-20			V
I _{CBO}	Collector cut off current	V _{CB} = -25V, I _E = 0			-1	μA
I _{EBO}	Emitter cut off current	V _{EB} = -2V, I _C = 0			-1	μA
h _{FE} *	DC forward current gain	V _{CE} = -4V, I _C = -100mA	150		800	—
V _{CE(sat)}	C to E saturation voltage	I _C = -500mA, I _B = -25mA		-0.25	-0.5	V
f _T	Gain band width product	V _{CE} = -6V, I _E = 10mA		180		MHz

ITEM	E	F	G
h _{FE}	150~300	250~500	400~800



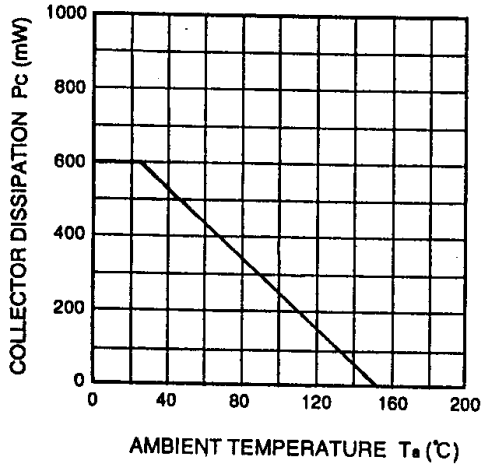
⟨Transistor⟩

2SA2002

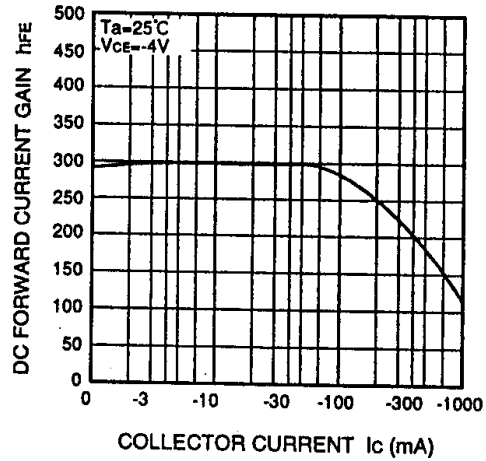
For High Current Application
Silicon PNP Epitaxial Type Micro(Frame type)

TYPICAL CHARACTERISTICS

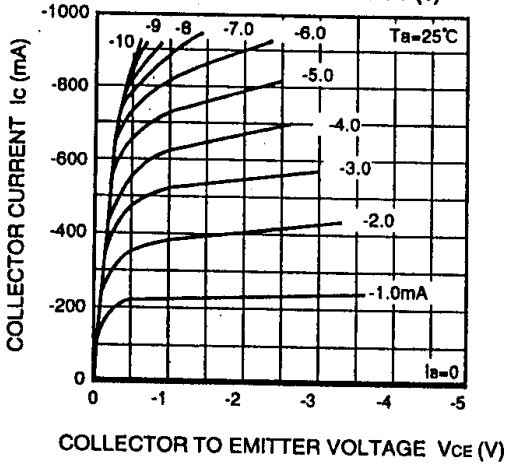
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



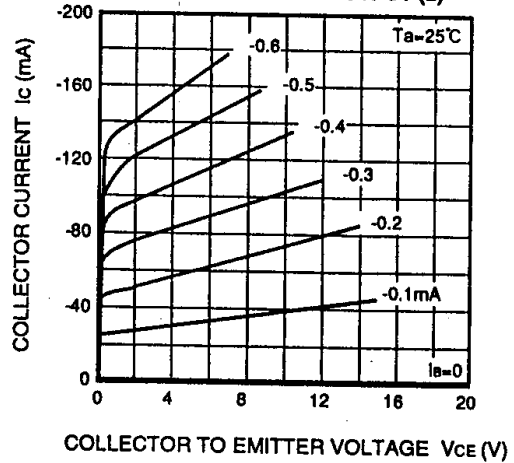
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



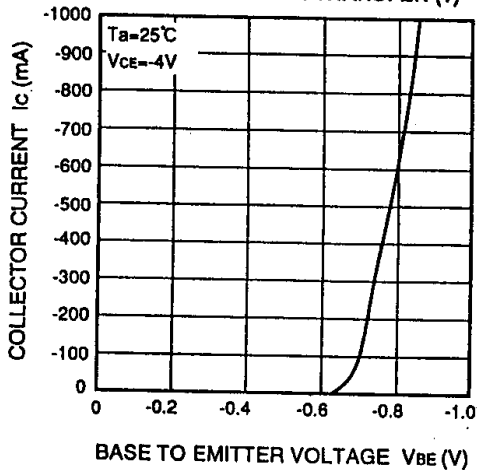
COMMON EMITTER OUTPUT (1)



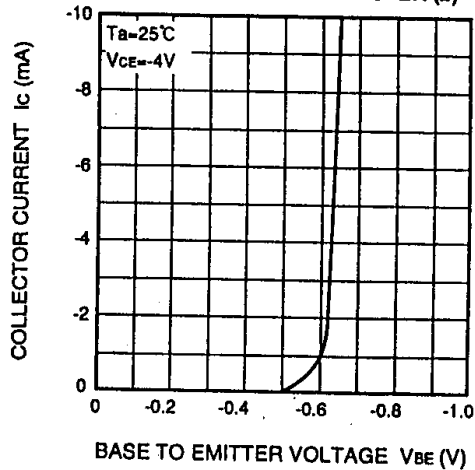
COMMON EMITTER OUTPUT (2)



COMMON EMITTER TRANSFER (1)



COMMON EMITTER TRANSFER (2)



The logo for IDC ISAHAYA ELECTRONICS CORPORATION. It features the letters 'IDC' in a stylized blue font with a red triangle above the 'I'. To the right of 'IDC', the words 'ISAHAYA ELECTRONICS CORPORATION' are written in a black, italicized, serif font.

<http://www.idc-com.co.jp>
6-41, TSUKUBA, ISAHAYA, NAGASAKI, 854-0065, JAPAN

Keep safety 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 consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of non-flammable material or (iii) prevention against any malfunction or mishap.

Notes regarding these materials

·These materials are intended as reference to assist out customers in the selection of the Isahaya semiconductor product best suited to the customer's application, they do not convey any license under any intellectual property rights, or any other rights, belonging to Isahaya Electronics Corporation or a third party.
·Isahaya Electronics Corporation assumes no responsibility for any damage, or infringement of any third-party rights, originating in the use of any product data, diagrams, charts or circuit application examples contained in the 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 authorized Isahaya Semiconductor product distributor for the latest product information before purchasing a product listed herein.
·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 reexport contrary to the export control laws and regulations of Japan and/or the country of destination is prohibited.
·Please contact Isahaya Electronics Corporation or an authorized Isahaya Semiconductor product distributor for further details on these materials or the products contained therein.
