

< SMALL-SIGNAL TRANSISTOR >

RT1P137P

TRANSISTOR WITH RESISTOR
FOR SWITCHING APPLICATION
SILICON PNP EPITAXIAL TYPE

DESCRIPTION

RT1P137P is a one chip transistor with built-in bias resistor,
NPN type is RT1N137P.

FEATURE

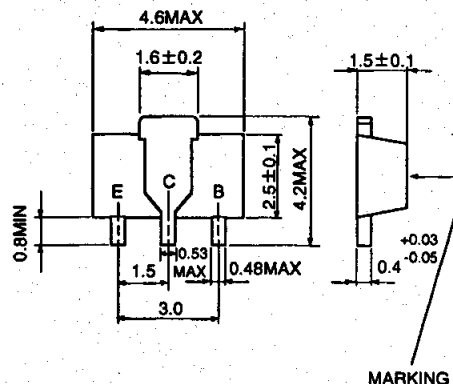
- Built-in bias resistor ($R_1=1k\Omega, R_2=22k\Omega$)
- High collector current $I_C=-1A$
- Low $V_{CE(sat)}$ $V_{CE(sat)}=-0.3V_{max}$ ($I_C=-300mA, I_B=-3mA$)
- High collector dissipation $P_C=500mW$

APPLICATION

Inverted circuit, switching circuit, interface circuit, driver circuit.

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

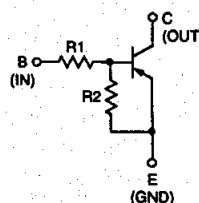
E : EMITTER
C : COLLECTOR EIAJ : -
B : BASE JEDEC : -

Note)
The dimension without tolerance represent central value.

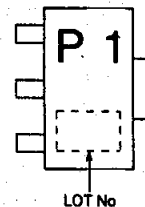
MAXIMUM RATINGS ($T_a=25^\circ C$)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	-40	V
V_{EBO}	Emitter to Base voltage	-6	V
V_{CEO}	Collector to Emitter voltage	-40	V
I_C	Collector current	-1	A
I_{CM}	Peak Collector current	-2	A
P_C	Collector dissipation($T_a=25^\circ C$)	500	mW
T_j	Junction temperature	+150	$^\circ C$
T_{stg}	Storage temperature	-55 to +150	$^\circ C$

EQUIVALENT CIRCUIT



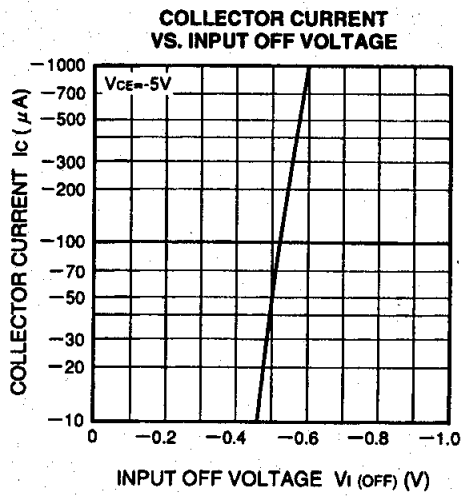
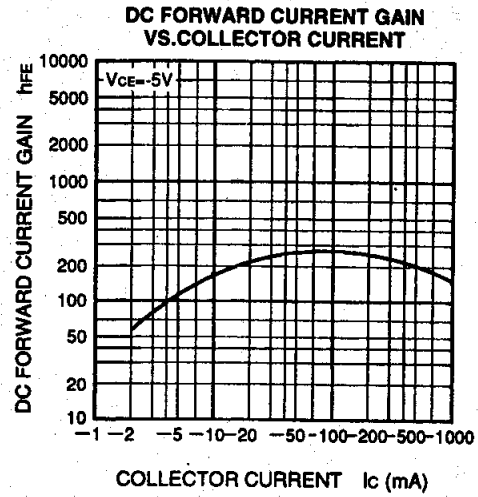
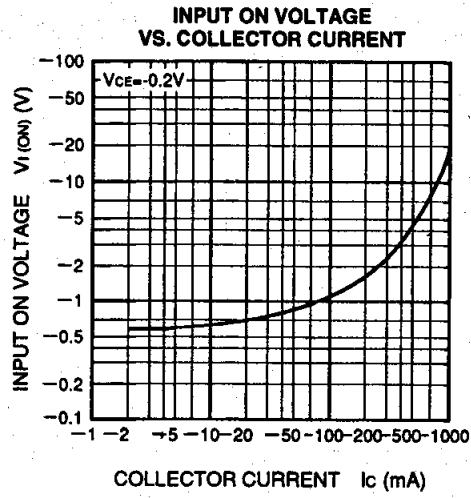
MARKING



ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	C to E break down voltage	$I_C=-1mA, R_{BE}=\infty$	-40			V
I_{CBO}	Collector cut off current	$V_{CB}=-40V, I_E=0$			-0.1	μA
h_{FE}	DC forward current gain	$V_{CE}=-5V, I_C=-100mA$	100			—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=-300mA, I_B=-3mA$		-0.1	-0.3	V
$V_{I(ON)}$	Input on voltage	$V_{CE}=-0.2V, I_C=-300mA$		-2.4	-4.0	V
$V_{I(OFF)}$	Input off voltage	$V_{CE}=-5V, I_C=-100\mu A$	0.4	0.53		V
R:	Input resistor		0.7	1.0	1.3	$k\Omega$
R2/R1	Resistor ratio		20	22	24	—
ft	Gain band width product	$V_{CE}=-6V, I_E=10mA$		130		MHz

TYPICAL CHARACTERISTICS



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.
