

<Analog IC>
RT8H2903E

2ch comparator

DESCRIPTION

This product has a comparator with the same circuit in the TMSOP8 package. It consists of 2 circuits. It operates on a single power supply, has a power supply voltage range of 2V to 40V, and has an open collector output, making it ideal for miniaturizing sets and high-density mounting.

FEATURES

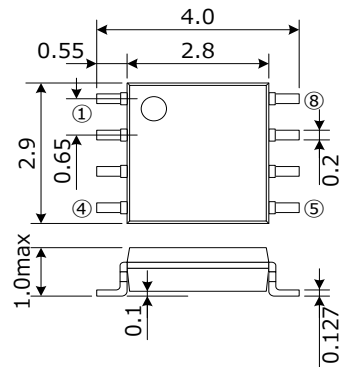
- Operating voltage range 2V to 40V
- Wide operating power supply voltage, single power supply operation possible
- Open collector output
- Wide common-mode input voltage and can operate with respect to GND input(VIN=-0.3V~40V)

APPLICATION

- Contains 2 general-purpose comparators

OUTLINE DRAWING

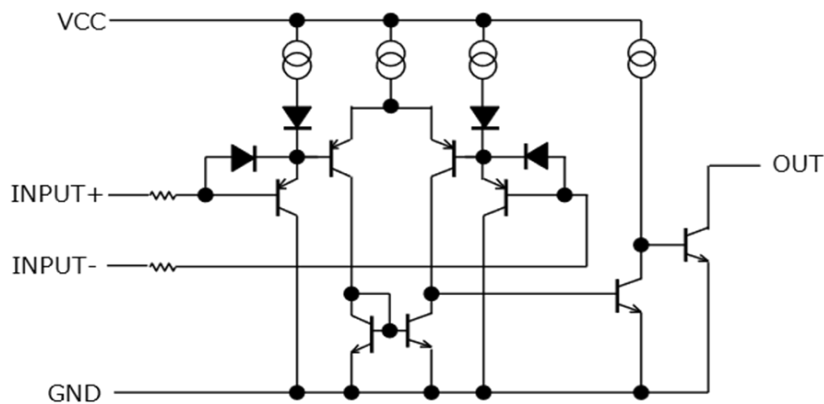
Unit : mm



PIN CONFIGURATION

- ①A_OUT ⑧VCC
- ②A_IN- ⑦B_OUT
- ③A_IN+ ⑥B_IN-
- ④GND ⑤B_IN+

BLOCK DIAGRAM



<Analog IC>
RT8H2903E

2ch comparator

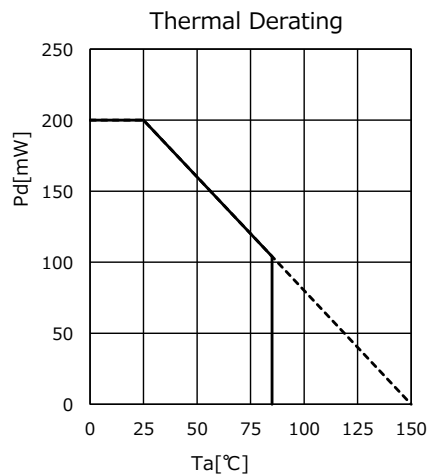
ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Conditions	Ratings	Unit
VCC	Supply voltage		40	V
VIN	Input voltage		-0.3~VCC	V
Pd	Internal power dissipation	Ta≥25°C	200	mW
Kθ	Thermal derating		1.6	mW/°C
Tj	Junction temperature		150	°C
Tstg	Storage temperature	(keep dry)	-40~150	°C
Topr	Operating temperature	(keep dry)	-20~85	°C

ELECTRICAL CHARACTERISTIC (Ta=25°C,VCC=5V unless otherwise noted.)

Symbol	Parameter	Test condition	Designed value			Unit
			Min	Typ	Max	
VCC	Supply voltage		2	5	40	V
VIO	input offset voltage	RS=0Ω, VO=1.4V ※ Absolute value notation	-	-	7	mV
IIO	Input offset current	※ Absolute value notation	-	-	50	nA
IB	Input bias current (+)	※ Absolute value notation	-	30	250	nA
	Input bias current (-)					
VICM	Common mode input voltage	Temperature range: -20~85°C	-	-	VCC-2	V
ICC	Circuit current	*Total current value of 2 circuits	-	0.4	1	mA
AVA	voltage gain	RL=15kΩ	-	106	-	dB
TR	response time	RL=5.1kΩ,5mV overdrive	-	1.3	-	us
IL	Output leakage current	VIN(+)=1V,VIN(-)=0V VO=5V	-	-	1	uA
Vsat	Output saturation voltage	VIN(+)=0V,VIN(-)=1V ISINK=3mA	-	0.2	0.4	V
Isink	Output sink current	VIN(+)=0V,VIN(-)=1V VO=1.5V	6	-	-	mA

CHARACTERISTICS



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.