

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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NPN SILICON EPITAXIAL DUAL TRANSISTOR  
FOR DIFFERENTIAL AMPLIFIER AND ULTRA HIGH SPEED SWITCHING  
INDUSTRIAL USE

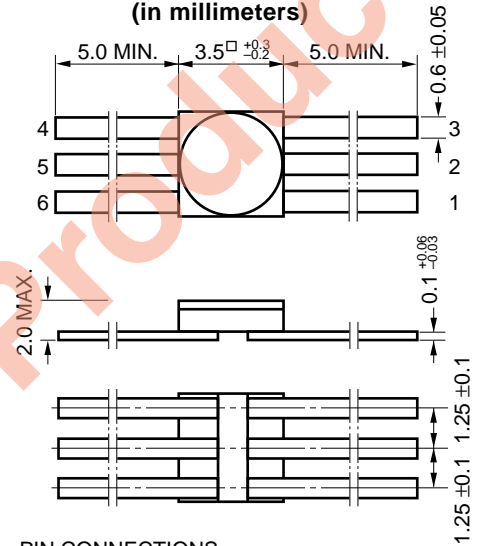
DESCRIPTION

The 2SC1927 is an NPN silicon epitaxial dual transistor that consists of two chips equivalent to the 2SC1275, and is designed for differential amplifier and ultra-high-speed switching applications.

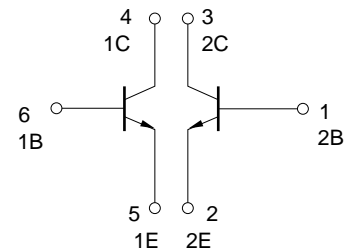
ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25 °C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector to Base Voltage	V <sub>CB0</sub>	30	V
Collector to Emitter Voltage	V <sub>CE0</sub>	14	V
Emitter to Base Voltage	V <sub>EB0</sub>	3.0	V
Collector Current	I <sub>C</sub>	50	mA
Collector Dissipation	P <sub>C</sub>	200	mW/unit
Total Power Dissipation	P <sub>T</sub>	300	mW
Junction Temperature	T <sub>j</sub>	200	°C
Storage Temperature	T <sub>stg</sub>	-65 to +200	°C

PACKAGE DIMENSIONS  
(in millimeters)



PIN CONNECTIONS

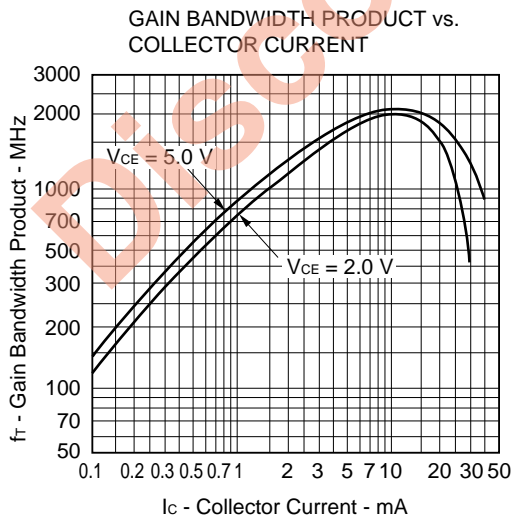
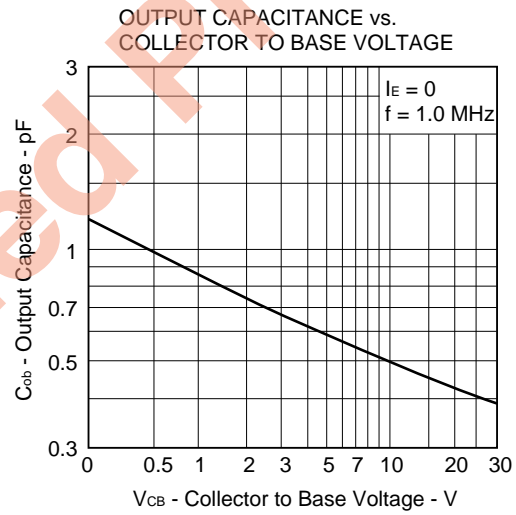
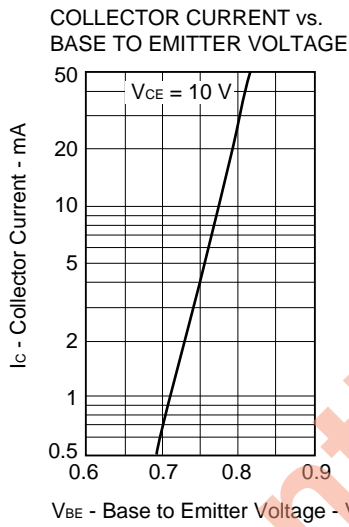
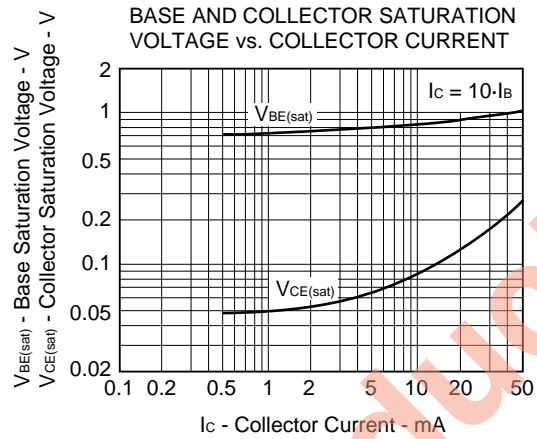
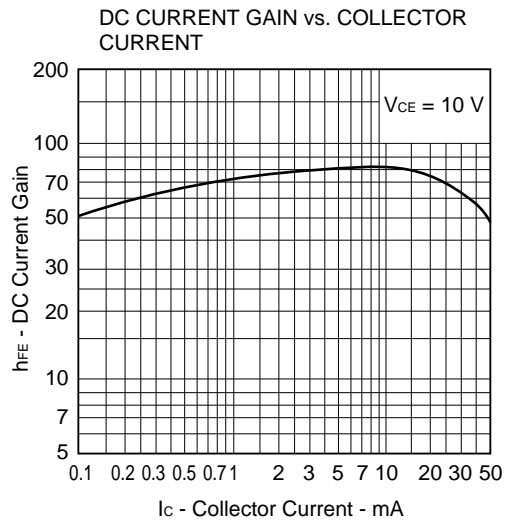


ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I <sub>CES</sub>	V <sub>CE</sub> = 15 V, R <sub>BE</sub> = 0			50	nA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = 2.0 V, I <sub>C</sub> = 0			50	nA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 10 mA	25	80	200	
h <sub>FE</sub> Ratio	h <sub>FE1</sub> /h <sub>FE2</sub>	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 10 mA *1	0.8		1.0	
Difference of Base to Emitter Voltage	ΔV <sub>BE</sub>	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 10 mA			30	mV
Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 10 mA *2	1.5	2.0		GHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1.0 MHz *3		1.1	1.5	pF

- \* 1. h<sub>FE1</sub> is the smaller h<sub>FE</sub> value of the 2 transistors.
- 2. Sampling check shall be done on a production lot base using a TO-18 packaged device (equivalent to the 2SC1275).
- 3. Measured with a 3-terminal bridge, terminals other than the collector and base of the device under test should be connected to the guard terminal of the bridge.

TYPICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C)



[MEMO]

Discontinued Product

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Standard: Computers, office equipment, communications equipment, test and measurement equipment, audio and visual equipment, home electronic appliances, machine tools, personal electronic equipment and industrial robots

Special: Transportation equipment (automobiles, trains, ships, etc.), traffic control systems, anti-disaster systems, anti-crime systems, safety equipment and medical equipment (not specifically designed for life support)

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The quality grade of NEC devices in "Standard" unless otherwise specified in NEC's Data Sheets or Data Books. If customers intend to use NEC devices for applications other than those specified for Standard quality grade, they should contact NEC Sales Representative in advance.

Anti-radioactive design is not implemented in this product.