

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

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

April 1st, 2010
Renesas Electronics Corporation

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

Send any inquiries to <http://www.renesas.com/inquiry>.

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Phase-out/Discontinued

2SA1625

DESCRIPTION

The 2SA1625 is designed for general purpose amplifier and high speed switching applications.

FEATURES

- High Voltage.
- High Speed Switching.
- Low Collector Saturation Voltage.

QUALITY GRADE

Standard

Please refer to "Quality grade on NEC Semiconductor Devices" (Document number IEI-1209) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

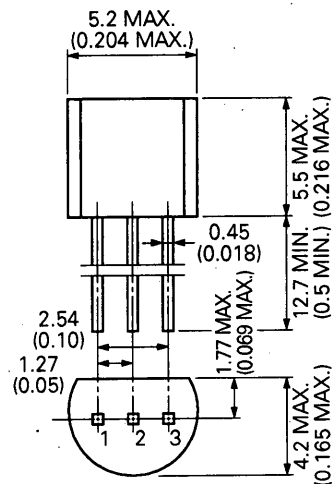
ABSOLUTE MAXIMUM RATINGS (T_a = 25 °C)

Collector to Base Voltage	V _{CBO}	-400	V
Collector to Emitter Voltage	V _{CEO}	-400	V
Emitter to Base Voltage	V _{EBO}	-7.0	V
Collector Current (DC)	I _c	-0.5	A
Collector Current (pulse)*	I _c	-1.0	A
Total Power Dissipation	P _T	750	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

* PW ≤ 2 ms, Duty Cycle ≤ 50 %

PACKAGE DIMENSIONS

in millimeters (inches)



- 1. EMITTER EIAJ : SC-43B
- 2. COLLECTOR JEDEC : TO-92
- 3. BASE IEC : PA33

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

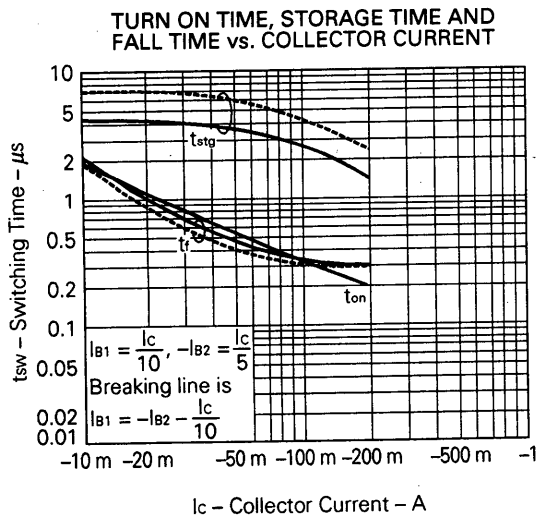
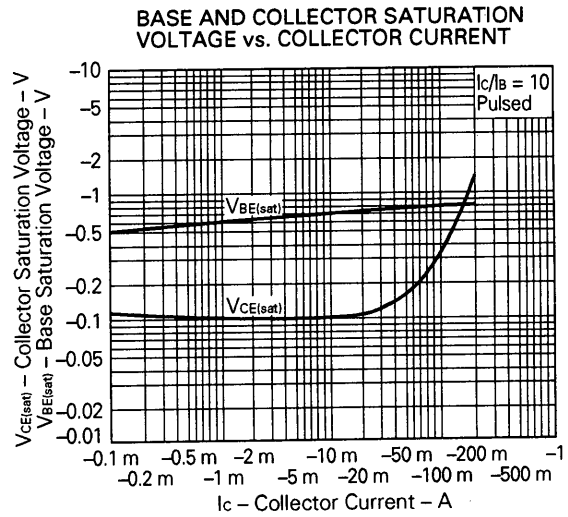
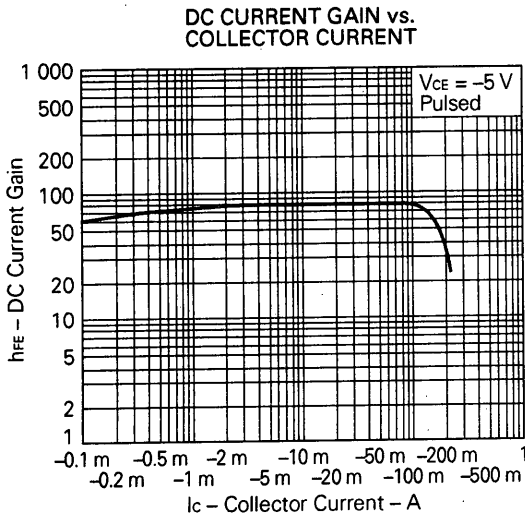
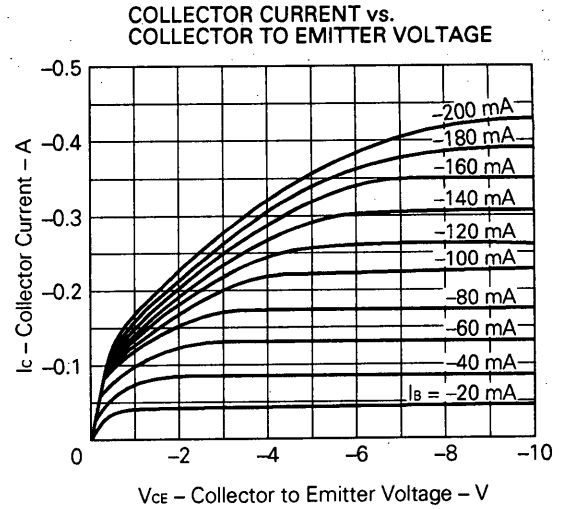
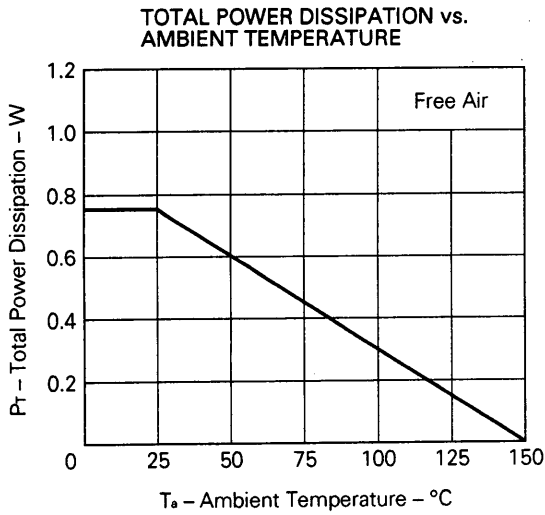
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Turn-on Time	t _{on}		0.3	1.0	μs	I _c = -100 mA, R _L = 1.5 kΩ, I _{B1} = -10 mA, I _{B2} = 10 mA, V _{CC} = -150 V PW = 50 μs, Duty Cycle ≤ 2 %
Storage Time	t _{stg}		4.0	5.0	μs	
Fall-Time	t _f		0.3	1.0	μs	
Gain Bandwidth Product	f _r	20	40		MHz	V _{CE} = -10 V, I _E = 10 mA
Output Capacitance	C _{ob}		17	20	pF	V _{CB} = -10 V, I _E = 0, f = 1 MHz
DC Current Gain	h _{FE} **	40	80	200	—	V _{CE} = -5.0 V, I _c = -50 mA
Collector Saturation Voltage	V _{CE(sat)**}		0.35	0.5	V	I _c = -0.1 A, I _B = -10 mA
Base Saturation Voltage	V _{BE(sat)**}		-0.80	-1.2	V	I _c = -0.1 A, I _B = -10 mA
Collector Cutoff Current	I _{CBO}			10	μA	V _{CB} = -400 V, I _E = 0
Emitter Cutoff Current	I _{EBO}			10	μA	V _{EB} = -5.0 V, I _c = 0
Collector to Emitter Voltage	V _{CEO}	-400			V	I _c = -1.0 mA, R _{BE} = ∞

** Pulsed PW ≤ 350 μs, Duty Cycle ≤ 2 %

Classification of h_{FE}

Rank	M	L	K
Range	40 to 80	60 to 120	100 to 200

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



REFERENCE APPLICATION NOTE

ASSEMBLY MANUAL FOR SEMICONDUCTOR DEVICES	IEI-1207
QUALITY CONTROL OF NEC SEMICONDUCTOR DEVICES	TEI-1202
QUALITY CONTROL GUIDE OF SEMICONDUCTOR DEVICES	MEI-1202

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Application examples recommended by NEC Corporation.

Standard: Computer, Office equipment, Communication equipment, Test and Measurement equipment, Machine tools, Industrial robots, Audio and Visual equipment, Other consumer products, etc.

Special: Automotive and Transportation equipment, Traffic control systems, Antidisaster systems, Anticrime systems, etc.