

STD03N

March, 2006

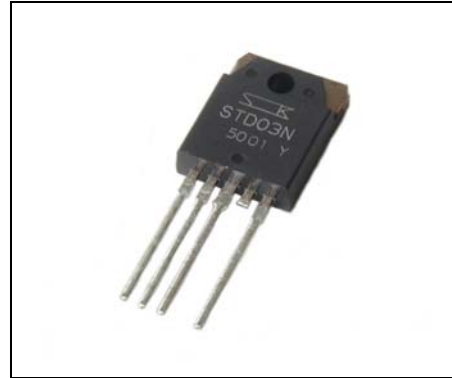
■Features

- High collector power dissipation: $P_c=160\text{W}$ (with TO-3P)
- Low internal impedance by means of thinner die structure
- Built-in temperature compensation diode
- Complementary to STD03P

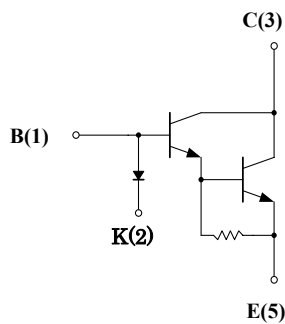
■Applications

- Audio output

■Package--- MT-105 (TO3P 5-pin)



■Equivalent circuit



Absolute maximum ratings

(Ta= 25°C)

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	VCBO	160	V
Collector-Emitter Voltage	VCEO	160	V
Emitter-Base Voltage	VEBO	5	V
Collector Current	IC	15	A
Base Current	IB	1	A
Collector Power Dissipation	PC	160 (Tc= 25°C)	W
Diode Forward Current	Di VF	10	mA
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55 to 150	°C

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Electrical characteristics

(Ta= 25°C)

Parameter	Symbol	Test Conditions	Limits			Unit
			MIN.	TYP.	MAX.	
Collector Cut-off Current	ICBO	VCB=160V			100	μA
Emitter Cut-off Current	IEBO	VEB=5V			100	μA
Collector-Emitter Voltage	VCEO	IC=30mA	160			V
DC Current Transfer Ratio	hFE *	VCE=4V, IC=10A	5000		20000	
Collector-Emitter saturation Voltage	VCE(sat)	IC=10A, IB=10mA			2.0	V
Base-Emitter saturation Voltage	VBE(sat)	IC=10A, IB=10mA			2.5	V
Base-Emitter Voltage	VBE	VCE=20V, IC=40mA		1190		mV
Diode Forward Voltage	Di VF	IF=2.5mA		705		mV

* hFE rank: 5000 to 12000(O), 8000 to 20000(Y)

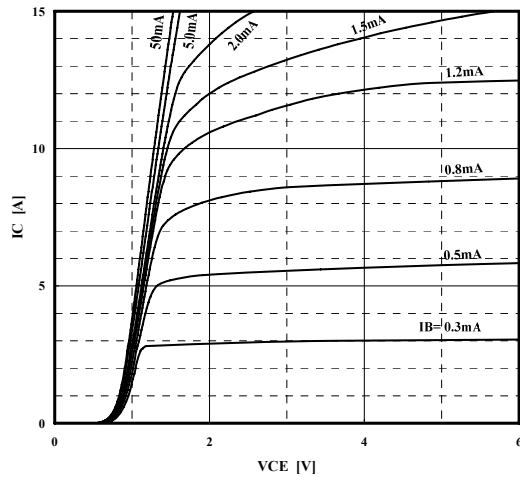
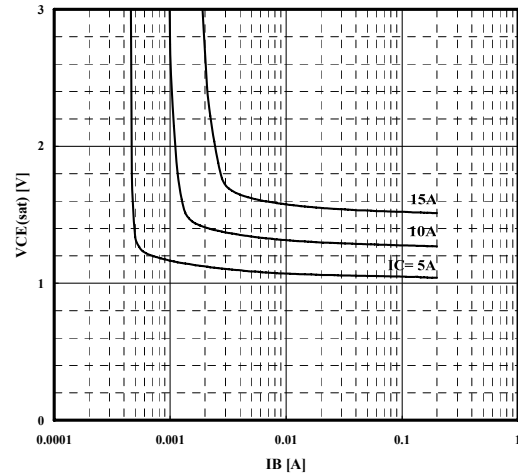
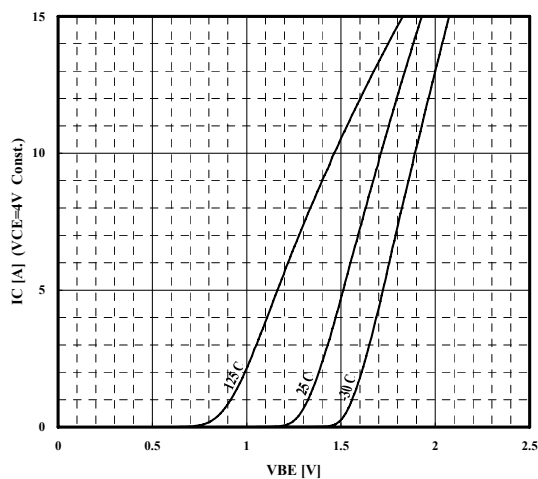
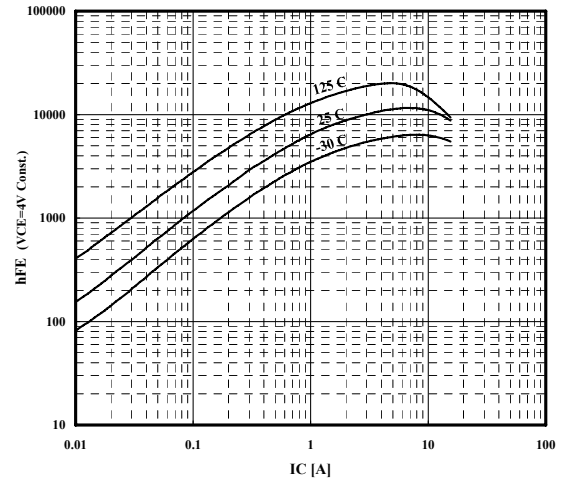
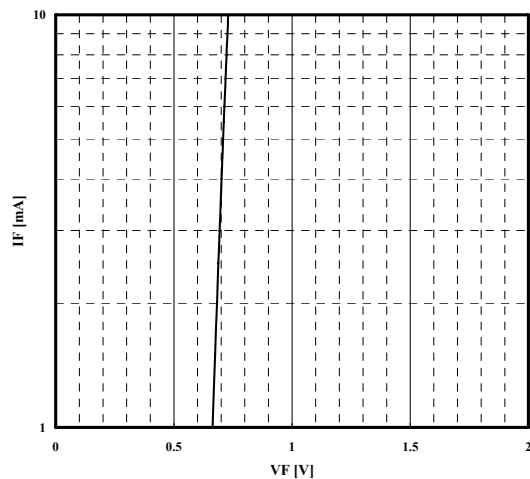
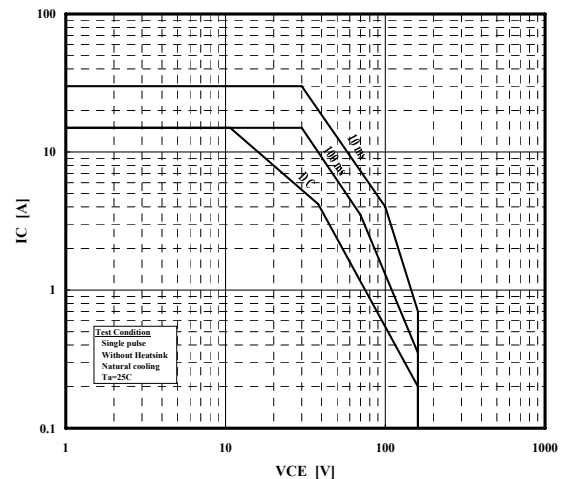
- ◆ When the transistors are used in pairs, the following conditions must be satisfied: Total VF of Di ≤ Total VBE of the transistors.

(The above measurement conditions shall be applied and ΔV=0 to 500mV.)

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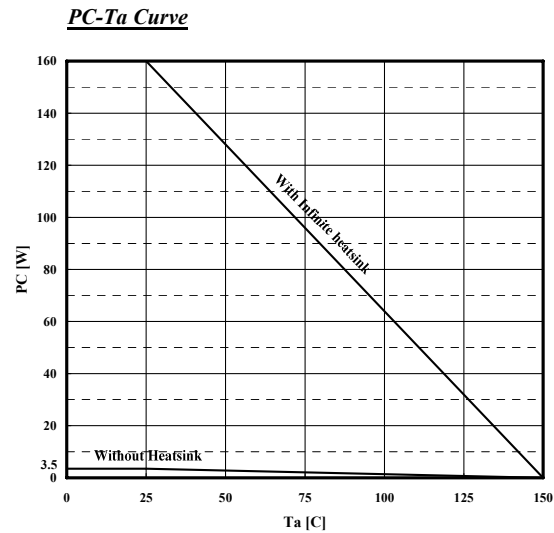
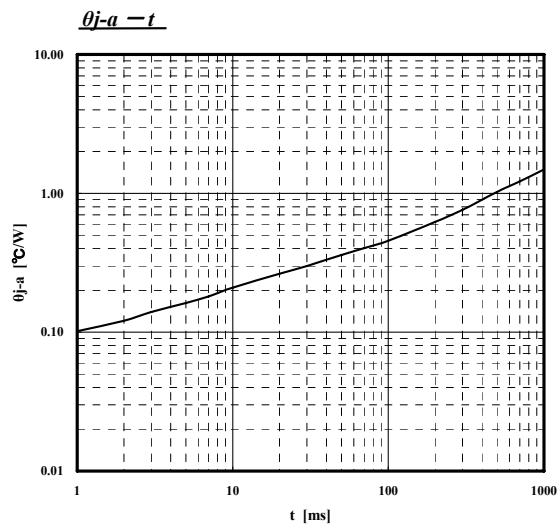
Typical Performance Characteristics (Tc=25°C)

IC-VCE CurveVCE(sat) - IB CurveIC - VBE CurvehFE - IC CurveDi IF-VFA.S.O. Curve

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Typical Performance Characteristics (Tc=25°C)

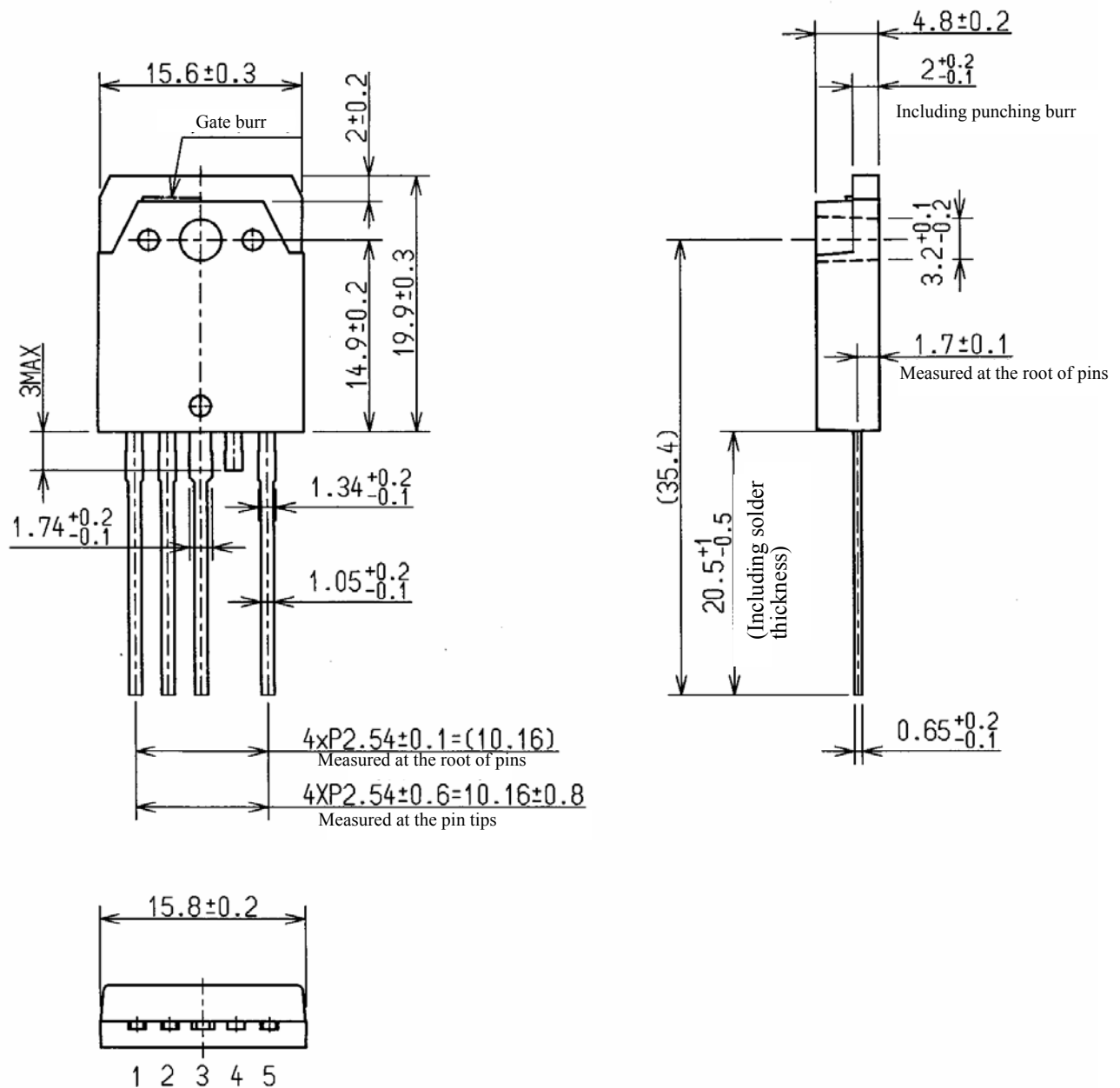


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External Dimensions

MT-105 (TO3P 5pin)



Mass: Approx. 6.0g

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<Worldwide Contacts>

Asia Pacific

China

Sanken Electric Hong Kong Co., Ltd.

Suite 1026 Ocean Centre, Canton Road, Tsimshatsui, Kowloon, Hong Kong

Tel: 852-2735-5262

Fax: 852-2735-5494

Sanken Electric (Shanghai) Co., Ltd.

Room3202, Maxdo Centre, Xingyi Road 8, Changning district, Shanghai, China

Tel: 86-21-5208-1177

Fax: 86-21-5208-1757

India

Saket Devices Pvt. Ltd.

Office No.25, 2nd Floor, Bandal - Dhankude Plaza, Near PMT Depot, Paud Road, Kothrud, Pune - 411 038, India

Tel: 91-20-5621-2340

Fax: 91-20-2528-5459

Japan

Sanken Electric Co., Ltd. Overseas Sales Headquarters

Metropolitan Plaza Bldg. 1-11-1 Nishi-Ikebukuro, Toshima-ku, Tokyo 171-0021, Japan

Tel: 81-3-3986-6164

Fax: 81-3-3986-8637

Korea

Sanken Electric Korea Co., Ltd.

Mirae Asset Life Bldg. 6F, 168 Kongduk-dong, Mapo-ku, Seoul, 121-705, Korea

Tel: 82-2-714-3700

Fax: 82-2-3272-2145

Singapore

Sanken Electric Singapore Pte. Ltd.

150 Beach Road, #14-03 The Gateway West, Singapore 189720

Tel: 65-6291-4755

Fax: 65-6297-1744

Taiwan

Taiwan Sanken Electric Co., Ltd.

Room 1801, 18th Floor, 88 Jung Shiau East Road, Sec. 2, Taipei 100, Taiwan R.O.C.

Tel: 886-2-2356-8161

Fax: 886-2-2356-8261

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Europe

France

Allegro MicroSystems Europe

Les Pleiades, Park Nord Annecy, 74370 Metz-Tessy, France

Tel: 33-450512359

Fax: 33-450512083

United Kingdom

Allegro MicroSystems Europe Limited

Balfour House, Churchfield Road, Walton-on-Thames, Surrey KT12 2TD, U.K.

Tel: 44-1932-253355

Fax: 44-1932-246622

North America

United States

Allegro MicroSystems, Inc.

115 Northeast Cutoff, Worcester, Massachusetts 01606, U.S.A.

Tel: 1-508-853-5000

Fax: 1-508-853-3353

Allegro MicroSystems, Inc. (Southern California)

14 Hughes Street, Suite B105, Irvine, CA 92618

Tel: 1-949-460-2003

Fax: 1-949-460-7837

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