

STD03P

March, 2006

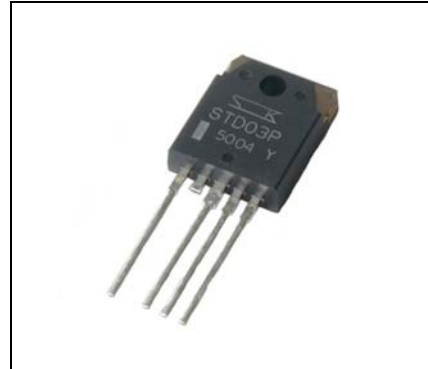
■Features

- 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 STD03N

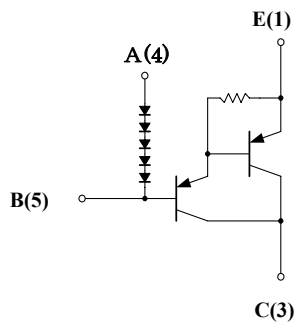
■Applications

- 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		1200		mV
Diode Forward Voltage	Di VF	IF=2.5mA		1540		mV

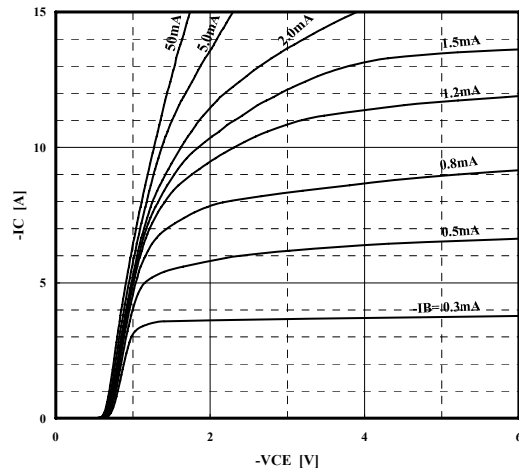
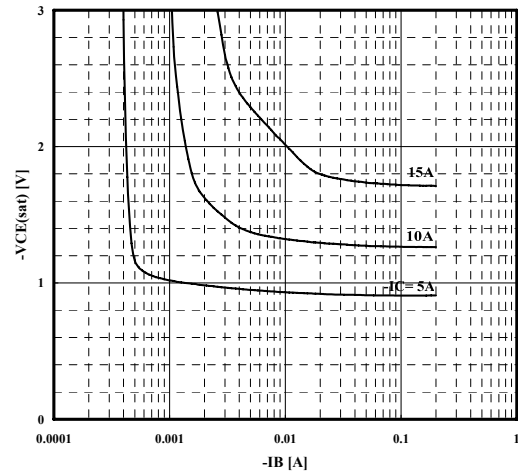
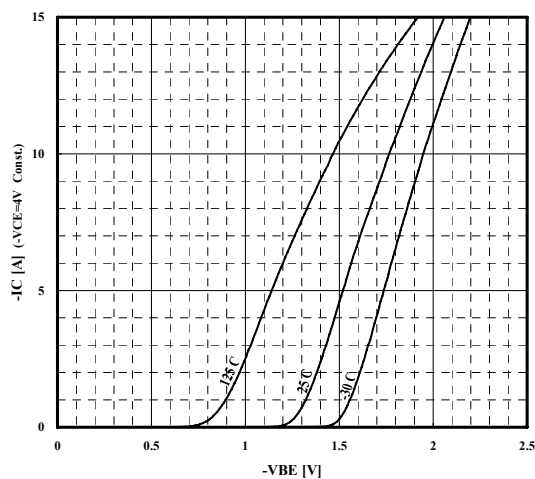
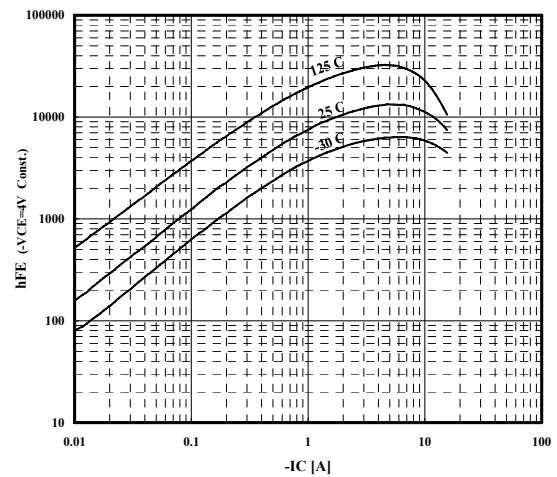
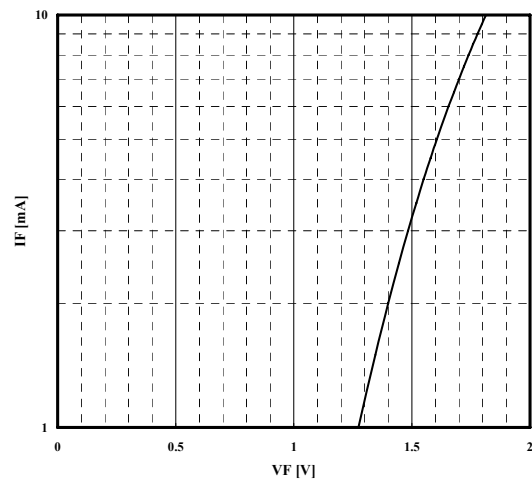
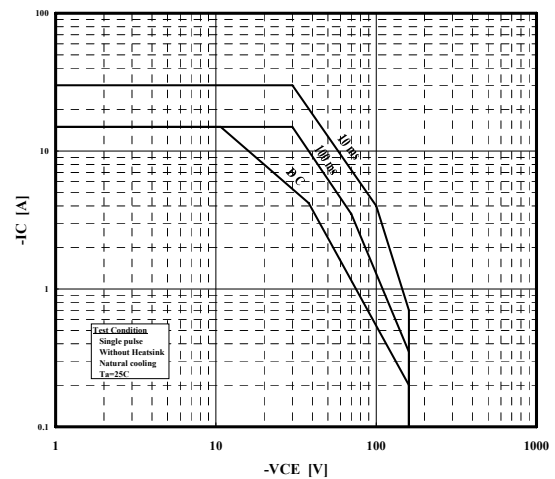
* hFE rank: 5000 to 12000(O), 8000 to 20000(Y)

- ◆ When the transistors are used in pairs, the following conditions must to 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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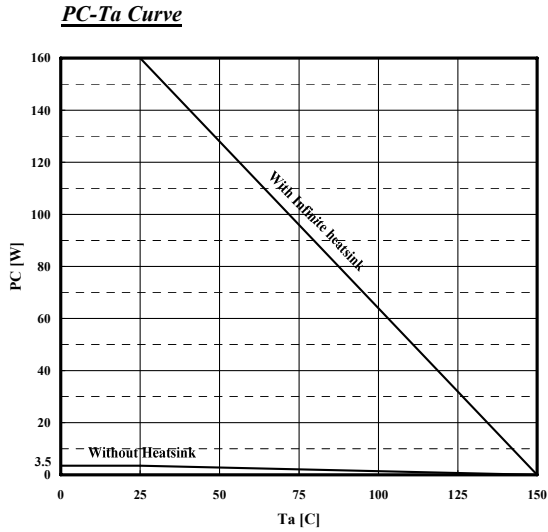
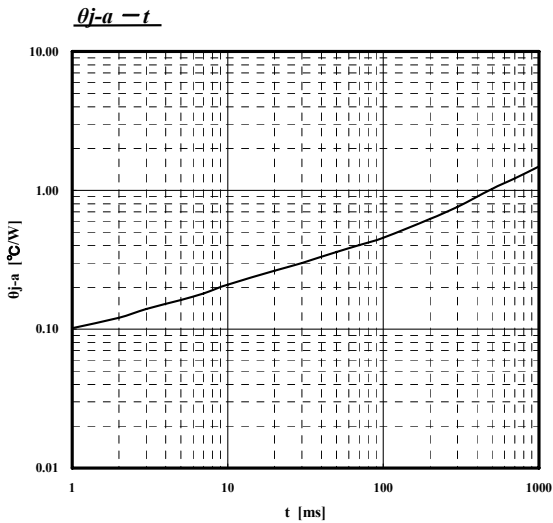
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Typical Performance Characteristics (T_c=25°C)IC-VCE CurveVCE(sat) - IB CurveIC - VBE CurvehFE - IC CurveDi IF-VFA.S.O. Curve

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Typical Performance Characteristics (Tc=25°C)

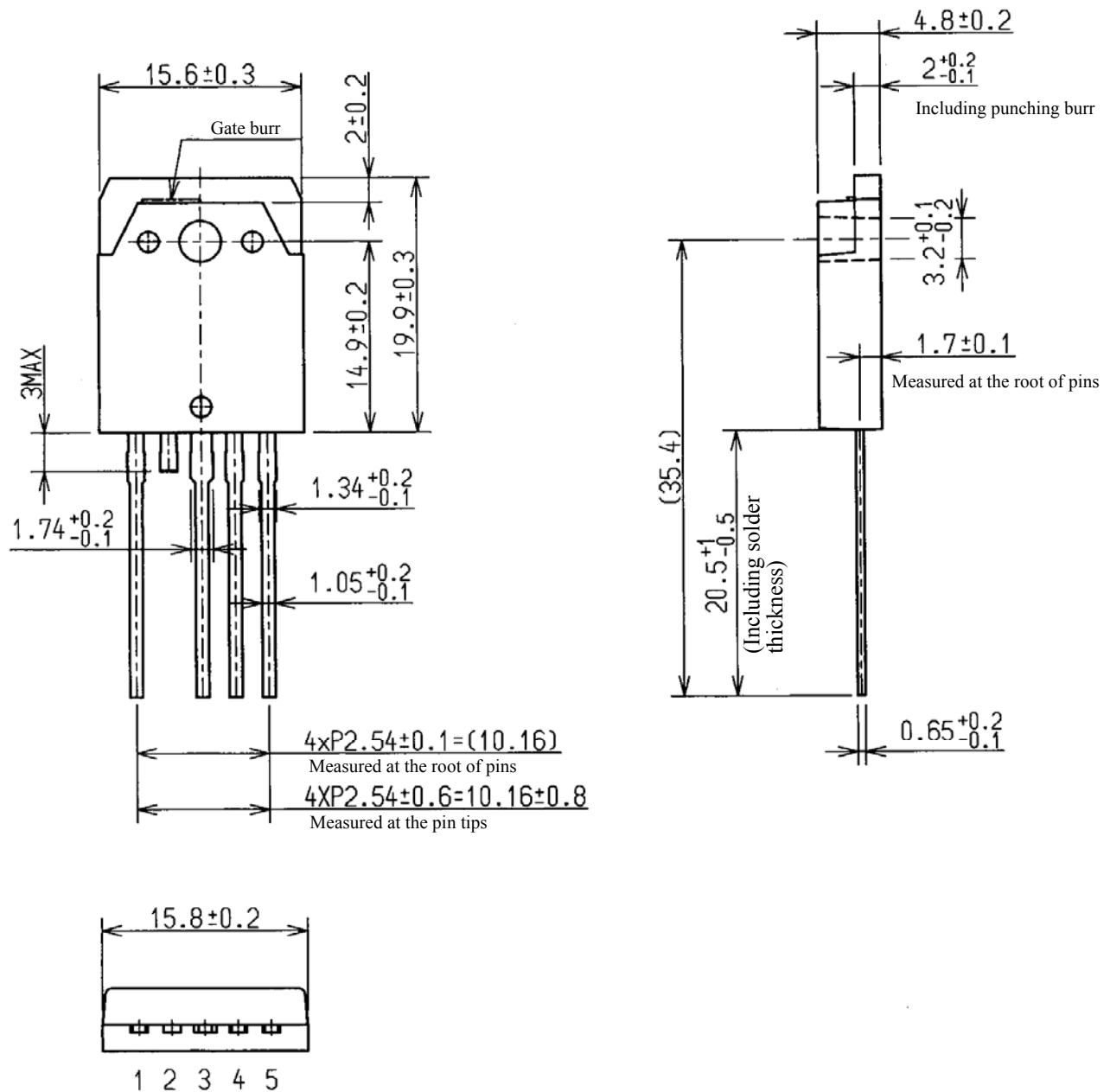


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External Dimensions

MT-105 (TO3P 5pin)



Mass: Approx. 6.0g

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