

To our customers,

Old Company Name in Catalogs and Other Documents

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

April 1st, 2010
Renesas Electronics Corporation

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

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PNP SILICON POWER TRANSISTOR

2SB772

PNP SILICON POWER TRANSISTOR

DESCRIPTION

The 2SB772 is PNP silicon transistor suited for the output stage of 3 W audio amplifier, voltage regulator, DC-DC converter and relay driver.

FEATURES

- Low saturation voltage
 $V_{CE(sat)} \leq -0.5 \text{ V}$ ($I_C = -2.0 \text{ A}$, $I_B = -0.2 \text{ A}$)
- Excellent h_{FE} linearity and high h_{FE}
 $h_{FE2} = 60 \text{ to } 400$ ($V_{CE} = -2.0 \text{ V}$, $I_C = -1.0 \text{ A}$)
- Less cramping space required due to small and thin package (TO-126 (MP-5)) and reducing the trouble for attachment to a radiator.
 No insulator bushing required.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperature	
Storage Temperature	-55 to +150°C
Junction Temperature	150°C Maximum
Maximum Power Dissipation	
Total Power Dissipation ($T_A = 25^\circ\text{C}$)	1.0 W
Total Power Dissipation ($T_C = 25^\circ\text{C}$)	10 W
Maximum Voltages and Currents ($T_A = 25^\circ\text{C}$)	
V_{CBO} Collector to Base Voltage	-40 V
V_{CEO} Collector to Emitter Voltage	-30 V
V_{EBO} Emitter to Base Voltage	-5.0 V
$I_{C(DC)}$ Collector Current (DC)	-3.0 A
$I_{C(pulse)}$ ^{Note} Collector Current (pulse)	-7.0 A

Note Pulse Test $PW \leq 350 \mu\text{s}$, Duty Cycle $\leq 2\%$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
DC Current Gain	h_{FE1}	$V_{CE} = -2.0 \text{ V}$, $I_C = -20 \text{ mA}$ ^{Note}	30	220		
DC Current Gain	h_{FE2}	$V_{CE} = -2.0 \text{ V}$, $I_C = -1.0 \text{ A}$ ^{Note}	60	160	400	
Gain Bandwidth Product	f_r	$V_{CE} = -5.0 \text{ V}$, $I_C = -0.1 \text{ A}$		80		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10 \text{ V}$, $I_E = 0 \text{ A}$, $f = 1.0 \text{ MHz}$		55		pF
Collector Cutoff Current	I_{CBO}	$V_{CB} = -30 \text{ V}$, $I_E = 0 \text{ A}$			-1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -3.0 \text{ V}$, $I_C = 0 \text{ A}$			-1.0	μA
Collector Saturation Voltage	$V_{CE(sat)}$	$I_C = -2.0 \text{ A}$, $I_B = -0.2 \text{ A}$ ^{Note}		-0.3	-0.5	V
Base Saturation Voltage	$V_{BE(sat)}$	$I_C = -2.0 \text{ A}$, $I_B = -0.2 \text{ A}$ ^{Note}		-1.0	-2.0	V

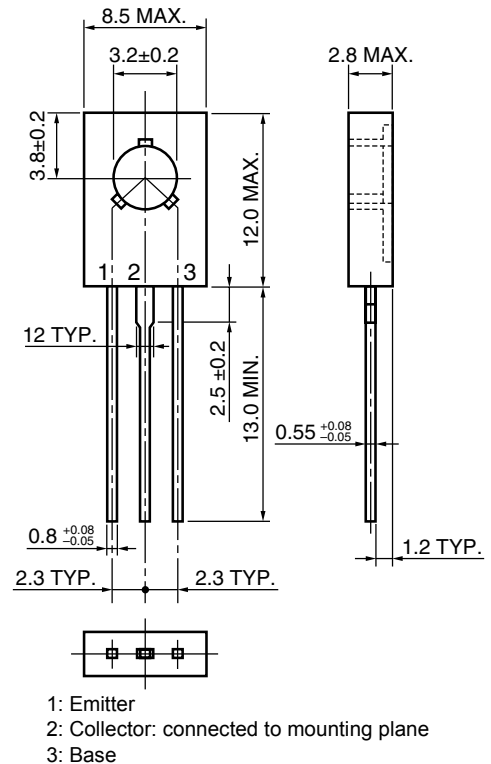
Note Pulse Test: $PW \leq 350 \mu\text{s}$, Duty Cycle $\leq 2\%$

CLASSIFICATION OF h_{FE2}

Rank	R	Q	P	E
Range	60 to 120	100 to 200	160 to 320	200 to 400

Remark Test Conditions: $V_{CE} = -2.0 \text{ V}$, $I_C = -1.0 \text{ A}$

PACKAGE DRAWING (Unit: mm)

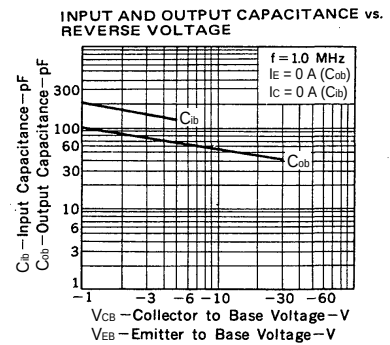
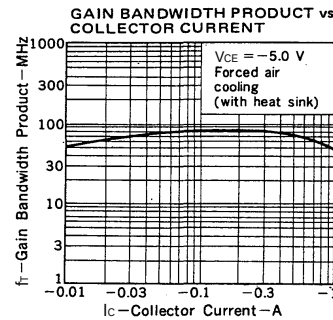
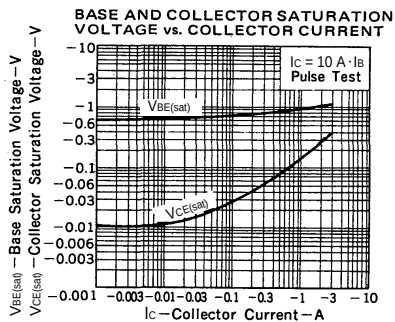
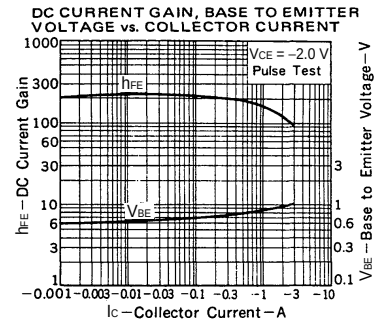
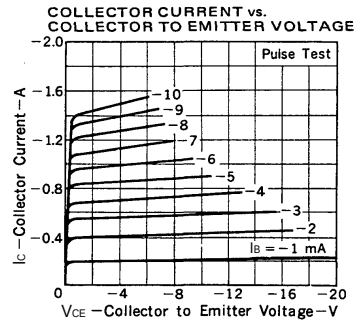
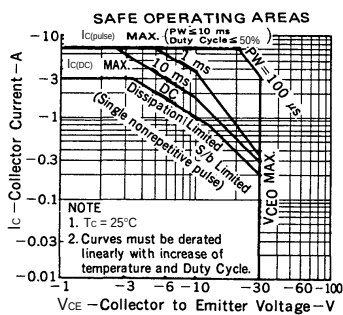
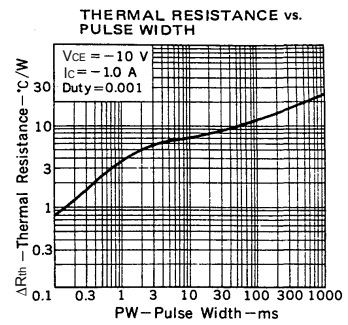
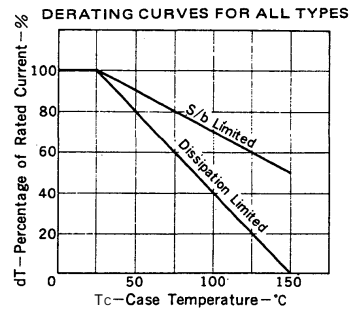
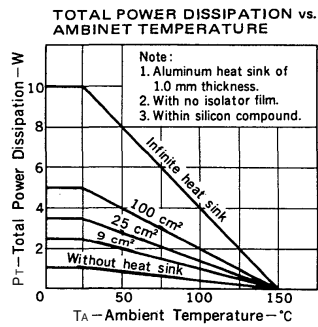


1: Emitter
 2: Collector: connected to mounting plane
 3: Base

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