2SB738, 2SB739

Silicon PNP Epitaxial

HITACHI

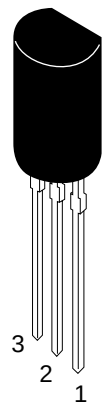
ADE-208-1030 (Z)
1st. Edition
Mar. 2001

Application

- Low frequency power amplifier
- Complementary pair with 2SD787 and 2SD788

Outline

TO-92MOD



1. Emitter
2. Collector
3. Base

Hitachi semiconductor

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	2SB738	2SB739	Unit
Collector to base voltage	V_{CBO}	–20	–20	V
Collector to emitter voltage	V_{CEO}	–16	–20	V
Emitter to base voltage	V_{EBO}	–6	–6	V
Collector current	I_C	–2	–2	A
Collector power dissipation	P_C	0.9	0.9	W
Junction temperature	Tj	150	150	°C
Storage temperature	Tstg	–55 to +150	–55 to +150	°C

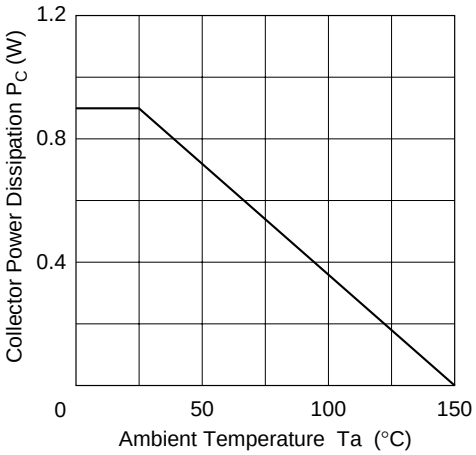
Electrical Characteristics (Ta = 25°C)

		2SB738			2SB739				
Item	Symbol	Min	Typ	Max	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	–20	—	—	–20	—	—	V	I_C = –10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	–16	—	—	–20	—	—	V	I_C = –1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	–6	—	—	–6	—	—	V	I_E = –10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	–2	—	—	–2	µA	V_{CB} = –16 V, I_E = 0
Emitter cutoff current	I_{EBO}	—	—	–0.2	—	—	–0.2	µA	V_{EB} = –6 V, I_C = 0
DC current transfer ratio	h_{FE}*[1]	100	—	320	100	—	320		V_{CE} = –2 V, I_C = –0.1 A
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	–0.3	—	—	–0.3	V	I_C = –1 A, I_B = –0.1 A
Gain bandwidth product	f_T	—	150	—	—	150	—	MHz	V_{CE} = –2 V, I_C = –10 mA
Collector output capacitance	Cob	—	50	—	—	50	—	pF	V_{CB} = –10 V, I_E = 0, f = 1 MHz

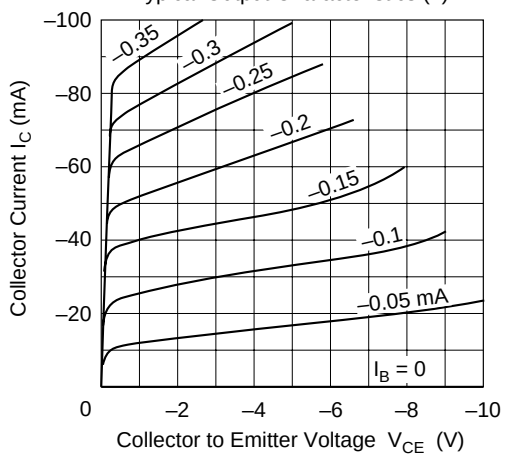
Note: 1. The 2SB738 and 2SB739 are grouped by h_{FE} as follows.

B	C
100 to 200	160 to 320

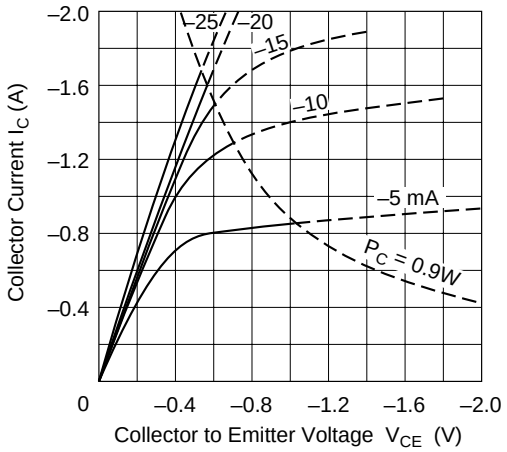
Maximum Collector Dissipation Curve



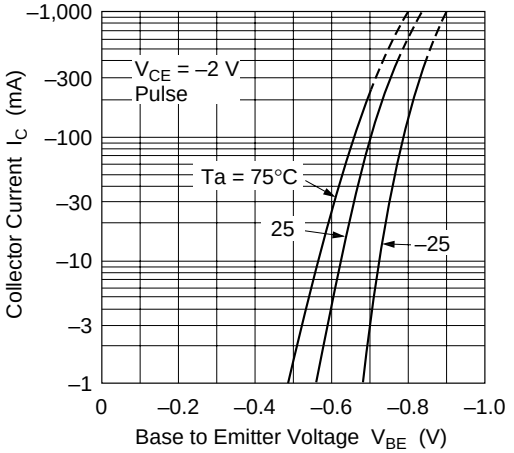
Typical Output Characteristics (1)



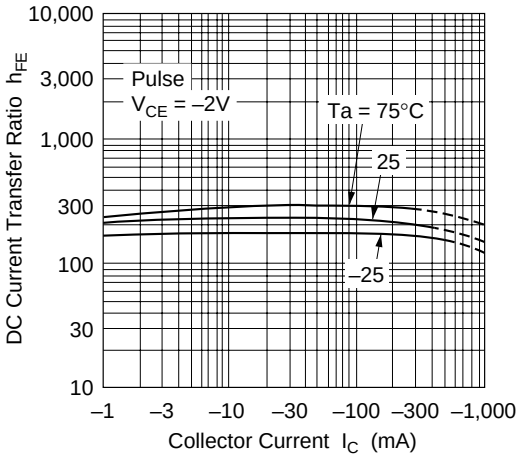
Typical Output Characteristics (2)



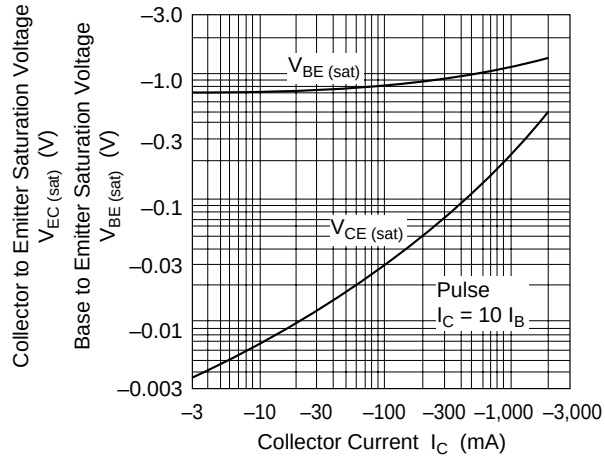
Typical Transfer Characteristics



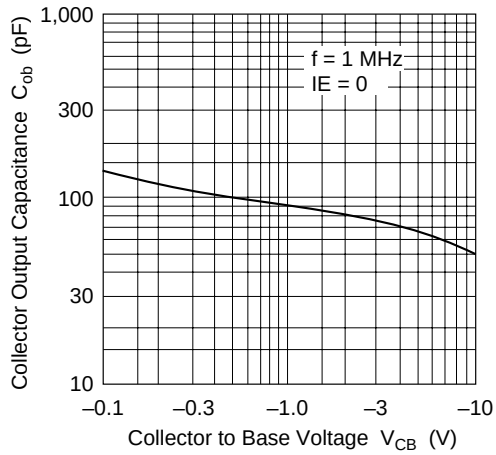
DC Current Transfer Ratio vs. Collector Current



Saturation Voltage vs. Collector Current

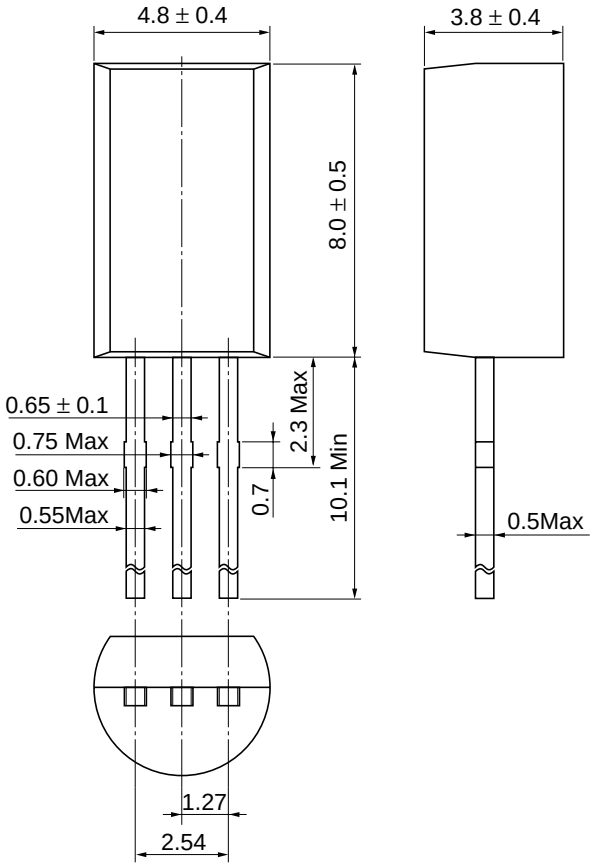


Collector Output Capacitance vs. Collector to Base Voltage



Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	TO-92 Mod
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.35 g

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