
2SD789

Silicon NPN Epitaxial

HITACHI

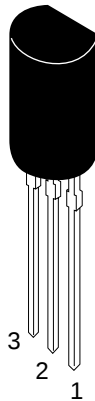
ADE-208-1140A (Z)
2nd. Edition
Mar. 2001

Application

- Low frequency power amplifier
- Complementary pair with 2SB740

Outline

TO-92MOD



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings (Ta = 25°C)

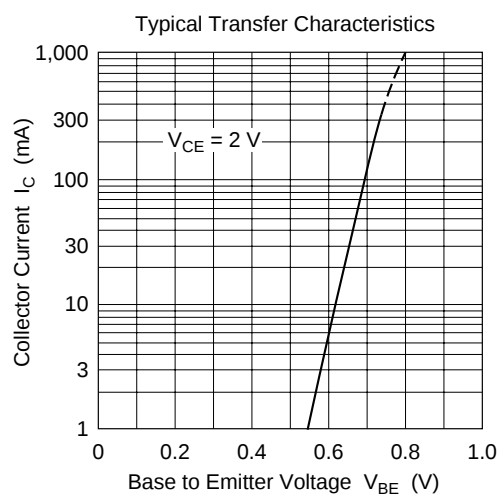
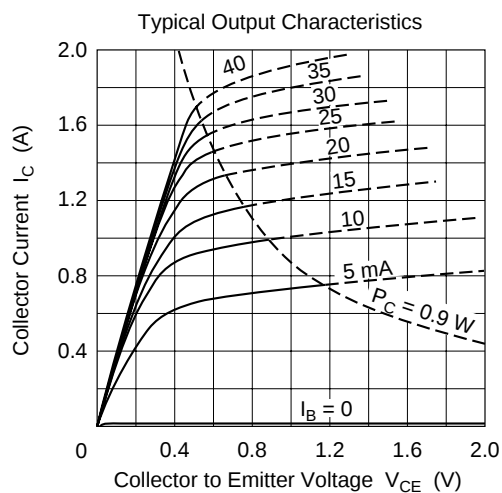
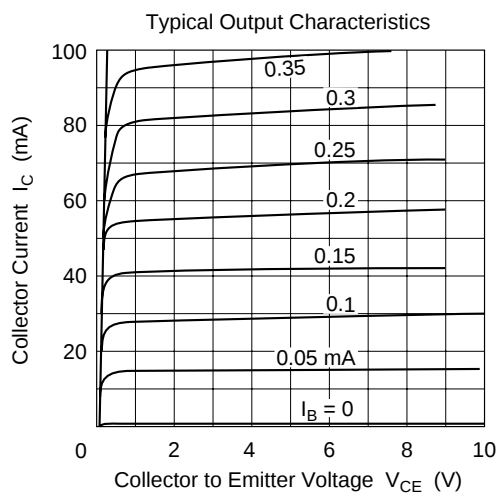
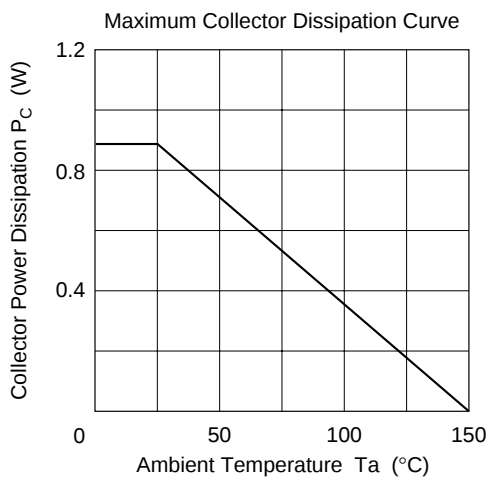
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	100	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	1	A
Collector power dissipation	P_C	0.9	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

Electrical Characteristics (Ta = 25°C)

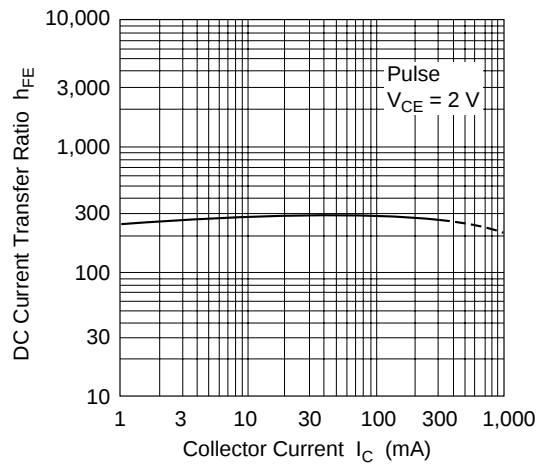
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	100	—	—	V	$I_C = 10\text{ }\mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	—	—	V	$I_C = 1\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 10\text{ }\mu\text{A}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	1	μA	$V_{CB} = 80\text{ V}$, $I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	0.2	μA	$V_{EB} = 6\text{ V}$, $I_C = 0$
DC current transfer ratio	h_{FE}^{*1}	100	—	800		$V_{CE} = 2\text{ V}$, $I_C = 0.1\text{ A}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C = 1\text{ A}$, $I_B = 0.1\text{ A}$
Gain bandwidth product	f_T	—	100	—	MHz	$V_{CE} = 2\text{ V}$, $I_C = 10\text{ mA}$
Collector output capacitance	C_{ob}	—	20	—	pF	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$

Note: 1. The 2SD789 is grouped by h_{FE} as follows.

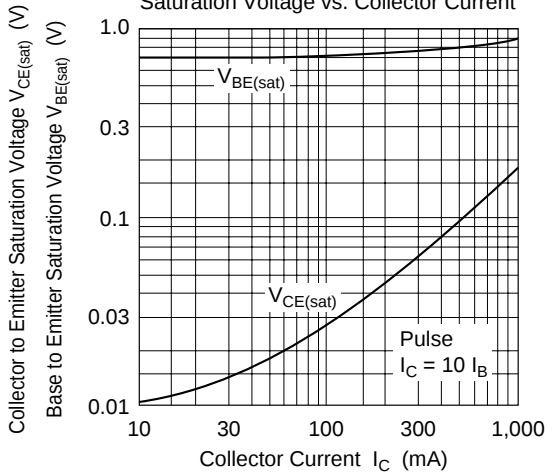
B	C	D	E
100 to 200	160 to 320	250 to 500	400 to 800



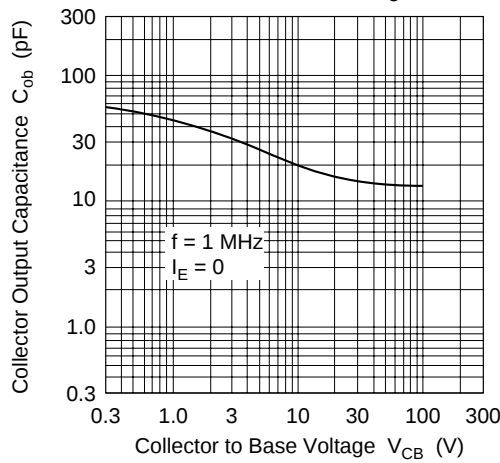
DC Current Transfer Ratio vs.
Collector Current



Saturation Voltage vs. Collector Current



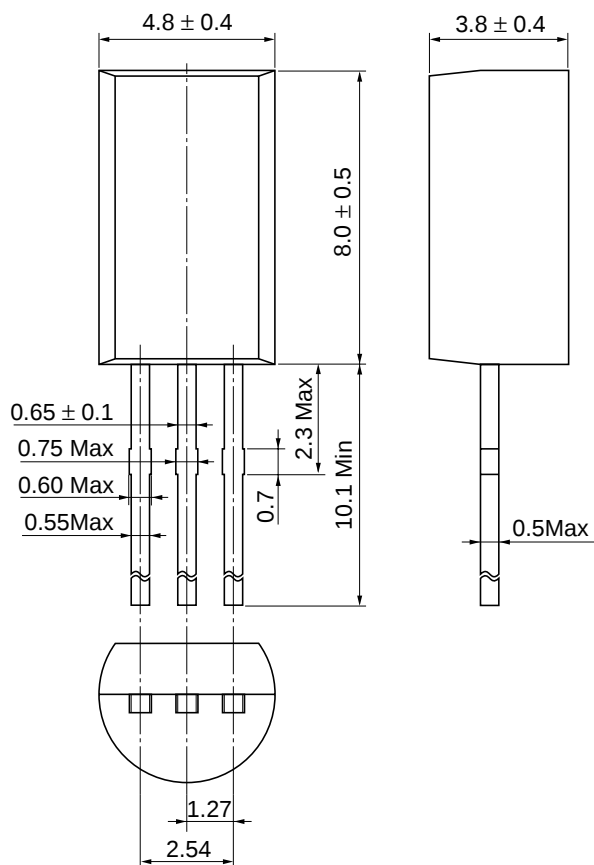
Collector Output Capacitance vs.
Collector to Base Voltage



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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