
2SB740

Silicon PNP Epitaxial

HITACHI

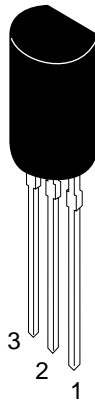
ADE-208-1032 (Z)
1st. Edition
Mar. 2001

Application

- Low frequency power amplifier
- Complementary pair with 2SD789

Outline

TO-92MOD



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

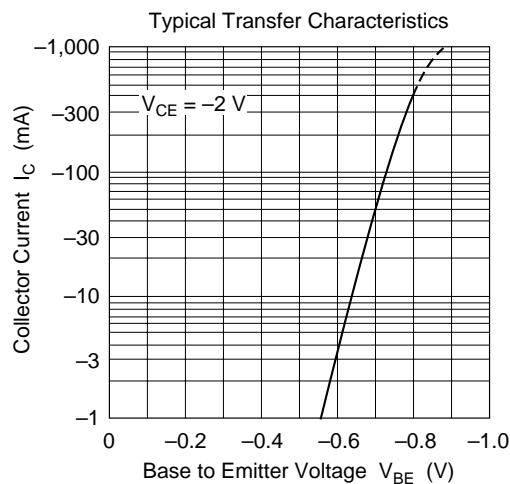
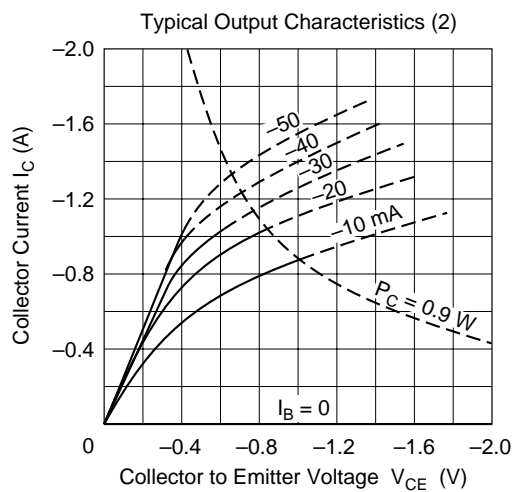
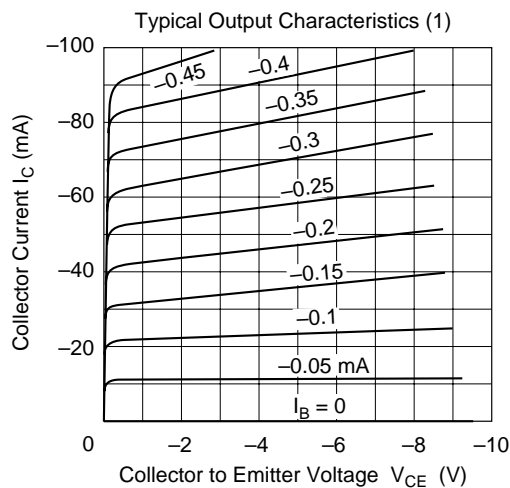
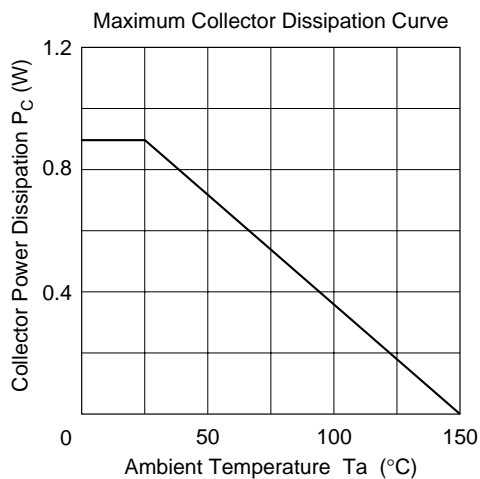
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-70	V
Collector to emitter voltage	V_{CEO}	-50	V
Emitter to base voltage	V_{EBO}	-6	V
Collector current	I_{C}	-1	A
Collector power dissipation	P_{C}	0.9	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

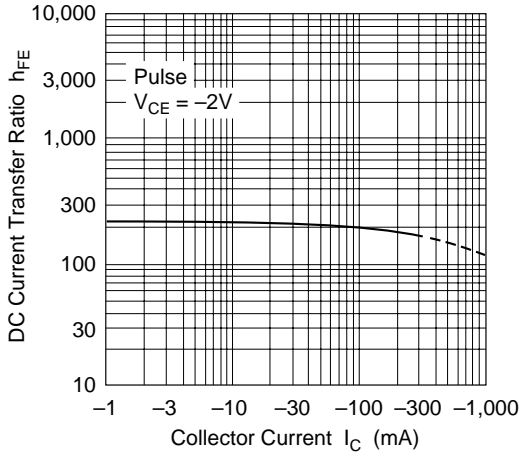
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	-70	—	—	V	$I_{\text{C}} = -10 \mu\text{A}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	-50	—	—	V	$I_{\text{C}} = -1 \text{ mA}$, $R_{\text{BE}} = \infty$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	-6	—	—	V	$I_{\text{E}} = -10 \mu\text{A}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	-1	μA	$V_{\text{CB}} = -55 \text{ V}$, $I_{\text{E}} = 0$
Emitter cutoff current	I_{EBO}	—	—	-0.2	μA	$V_{\text{EB}} = -6 \text{ V}$, $I_{\text{C}} = 0$
DC current transfer ratio	h_{FE}^{*1}	100	—	320		$V_{\text{CE}} = -2 \text{ V}$, $I_{\text{C}} = -0.1 \text{ A}$
Collector to emitter saturation voltage	$V_{\text{CE}(\text{sat})}$	—	—	-0.6	V	$I_{\text{C}} = -1 \text{ A}$, $I_{\text{B}} = -0.1 \text{ A}$
Gain bandwidth product	f_{T}	—	150	—	MHz	$V_{\text{CE}} = -2 \text{ V}$, $I_{\text{C}} = -10 \text{ mA}$
Collector output capacitance	C_{ob}	—	35	—	pF	$V_{\text{CB}} = -10 \text{ V}$, $I_{\text{E}} = 0$, $f = 1 \text{ MHz}$

Note: 1. The 2SB740 is grouped by h_{FE} as follows.

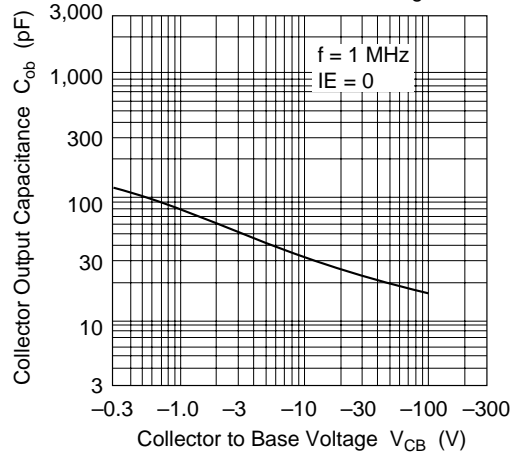
B	C
100 to 200	160 to 320



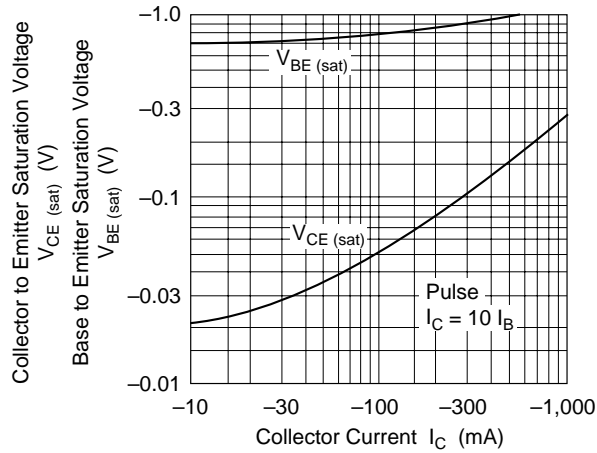
DC Current Transfer Ratio vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage



Saturation Voltage vs. Collector Current



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