2SB715, 2SB716, 2SB716A

Silicon PNP Epitaxial

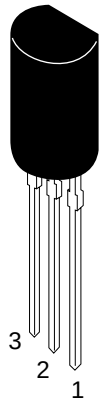
HITACHI

Application

- Low frequency high voltage amplifier
- Complementary pair with 2SD755, 2SD756 and 2SD756A

Outline

TO-92MOD



1. Emitter
2. Collector
3. Base

Hitachi semiconductor

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	2SB715	2SB716	2SB716A	Unit
Collector to base voltage	V_{CBO}	–100	–120	–140	V
Collector to emitter voltage	V_{CEO}	–100	–120	–140	V
Emitter to base voltage	V_{EBO}	–5	–5	–5	V
Collector current	I_C	–50	–50	–50	mA
Collector power dissipation	P_C	750	750	750	mW
Junction temperature	Tj	150	150	150	°C
Storage temperature	Tstg	–55 to +150	–55 to +150	–55 to +150	°C

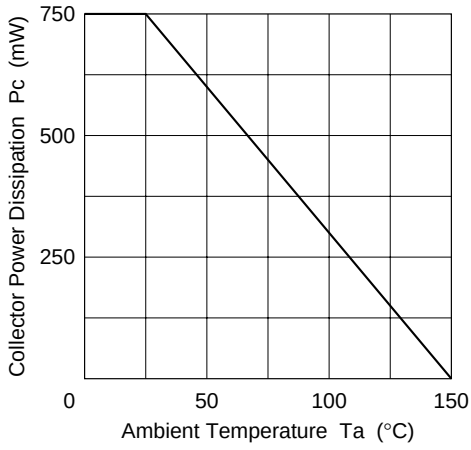
Electrical Characteristics (Ta = 25°C)

		2SB715			2SB716			2SB716A				
Item	Symbol	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	–100	—	—	–120	—	—	–140	—	—	V	I_C = –10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	–100	—	—	–120	—	—	–140	—	—	V	I_C = –1 mA, R_{BE} = ∞
Collector cutoff current	I_{CBO}	—	—	–0.5	—	—	—	—	—	—	µA	V_{CB} = –80 V, I_E = 0
		—	—	—	—	—	–0.5	—	—	–0.5	µA	V_{CB} = –100 V, I_E = 0
DC current transfer ratio	h_{FE1}*1	250	—	800	250	—	800	250	—	500		V_{CE} = –12 V, I_C = –2 mA
	h_{FE2}	125	—	—	125	—	—	125	—	—		V_{CE} = –12 V, I_C = –10 mA
Base to emitter voltage	V_{BE}	—	—	–0.75	—	—	–0.75	—	—	–0.75	V	V_{CE} = –12 V, I_C = –2 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	–0.2	—	—	–0.2	—	—	–0.2	V	I_C = –10 mA, I_B = –1 mA
Gain bandwidth product	f_T	—	150	—	—	150	—	—	150	—	MHz	V_{CE} = –12 V, I_C = –5 mA
Collector output capacitance	Cob	—	1.8	—	—	1.8	—	—	1.8	—	pF	V_{CB} = –25 V, I_E = 0, f = 1 MHz

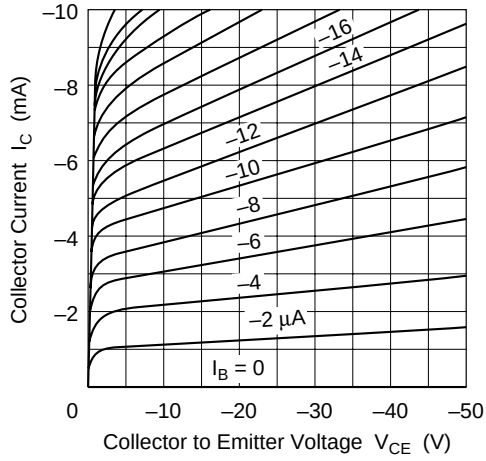
Note: 1. The 2SB715, 2SB716 and 2SB716A are grouped by h_{FE1} as follows.

	D	E
2SB715, 2SB716	250 to 500	400 to 800
2SB716A	250 to 500	—

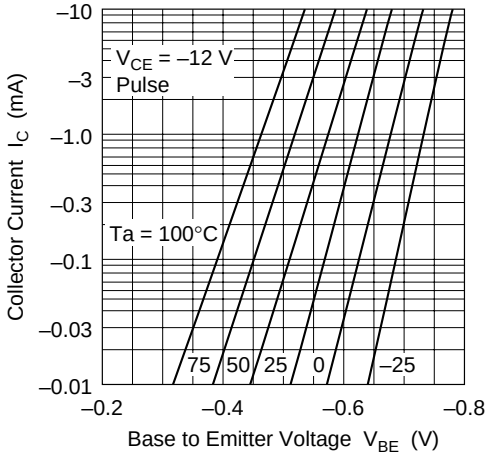
Maximum Collector Dissipation Curve



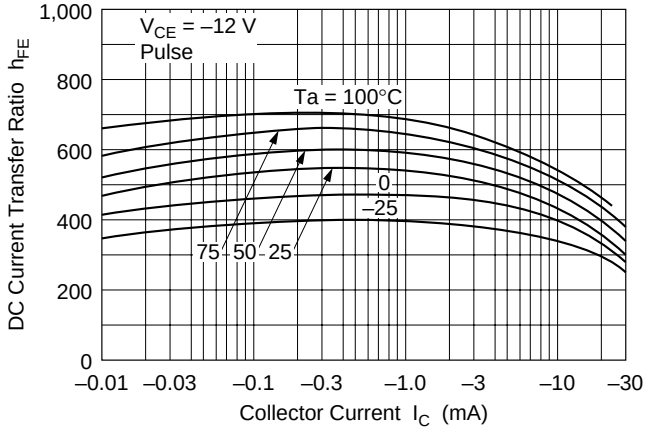
Typical Output Characteristics



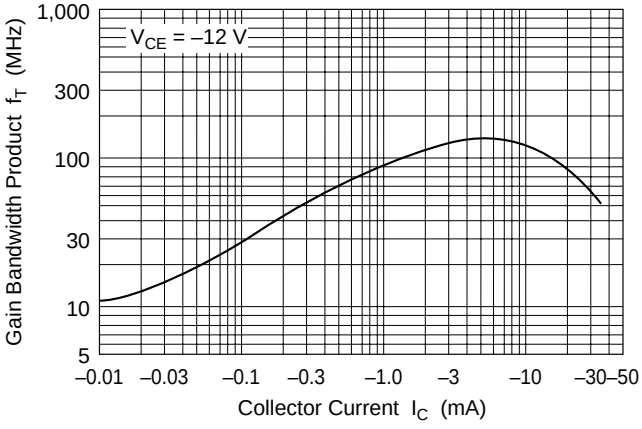
Typical Transfer Characteristics



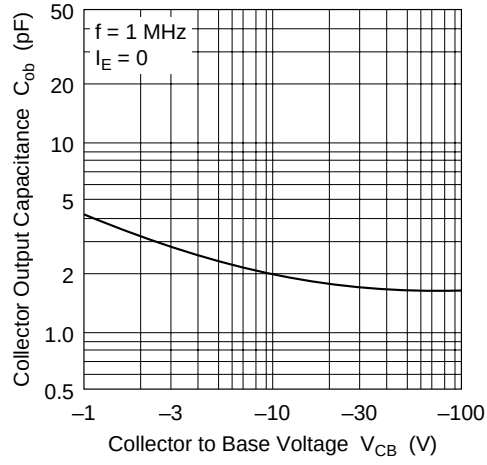
DC Current Transfer Ratio vs. Collector Current



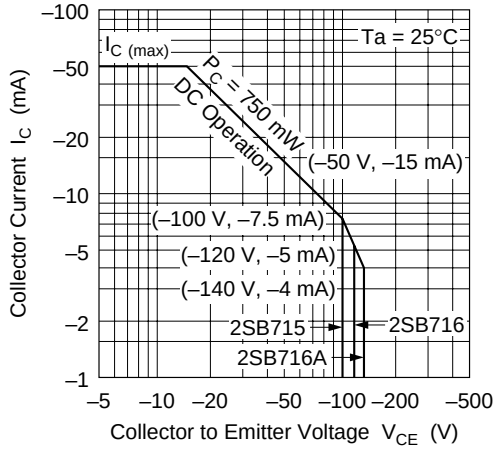
Gain Bandwidth Product vs. Collector Current



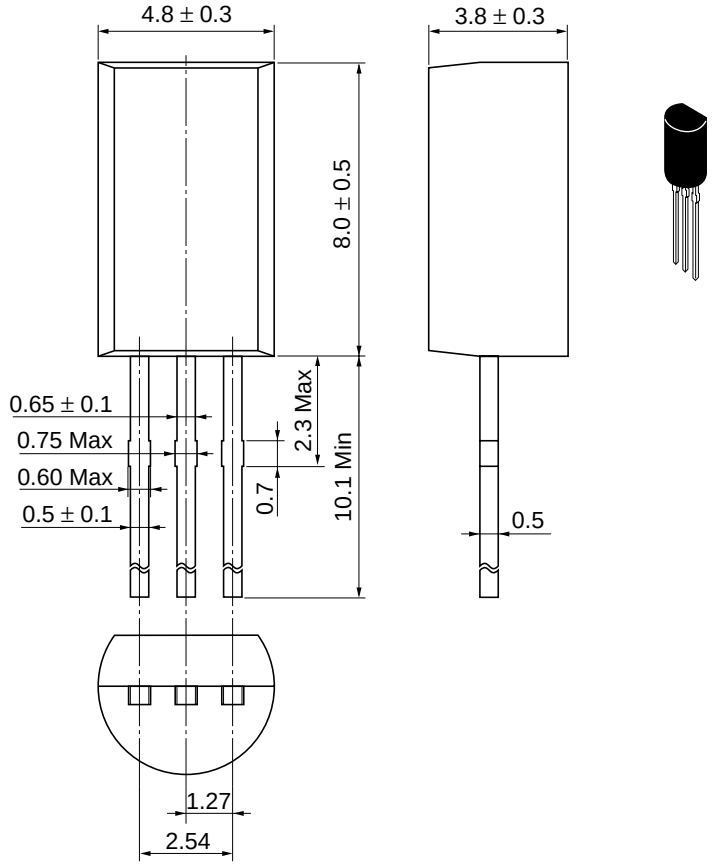
Collector Output Capacitance vs. Collector to Base Voltage



Area of Safe Operation



Unit: mm



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

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