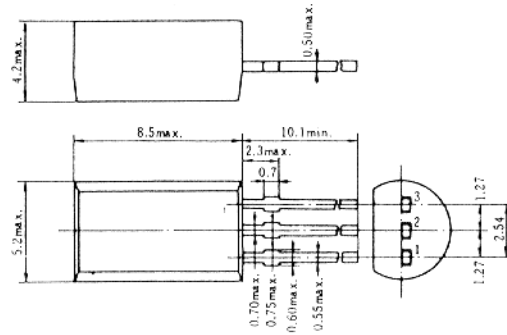


## 2SB738, 2SB739

SILICON PNP EPITAXIAL

LOW FREQUENCY POWER AMPLIFIER

Complementary pair with 2SD787 and 2SD788



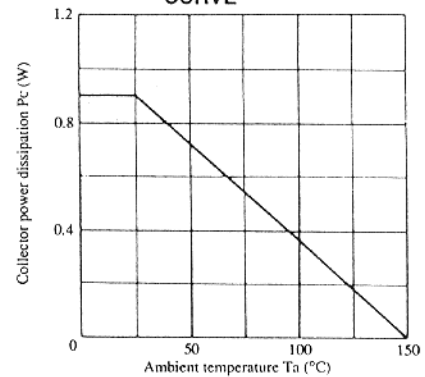
1. Emitter
  2. Collector
  3. Base
- (Dimensions in mm)

(JEDEC TO-92 MOD.)

### ■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SB738	2SB739	Unit
Collector to base voltage	V <sub>CB0</sub>	-20	-20	V
Collector to emitter voltage	V <sub>CE0</sub>	-16	-20	V
Emitter to base voltage	V <sub>EBO</sub>	-6	-6	V
Collector current	I <sub>C</sub>	-2	-2	A
Collector power dissipation	P <sub>C</sub>	0.9	0.9	W
Junction temperature	T <sub>j</sub>	150	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	-55 to +150	°C

### MAXIMUM COLLECTOR DISSIPATION CURVE



### ■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

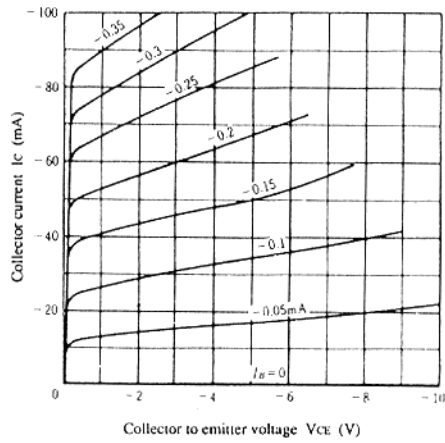
Item	Symbol	Test Condition	2SB738			2SB739			Unit
			min.	typ.	max.	min.	typ.	max.	
Collector to base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -10μA, I <sub>E</sub> = 0	-20	—	—	-20	—	—	V
Collector to emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -1mA, R <sub>BE</sub> = ∞	-16	—	—	-20	—	—	V
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -10μA, I <sub>C</sub> = 0	-6	—	—	-6	—	—	V
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = -16V, I <sub>E</sub> = 0	—	—	-2	—	—	-2	μA
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> = -6V, I <sub>C</sub> = 0	—	—	-0.2	—	—	-0.2	μA
DC current transfer ratio	h <sub>FE</sub> *	V <sub>CE</sub> = -2V, I <sub>C</sub> = -0.1A	100	—	320	100	—	320	
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -1A, I <sub>B</sub> = -0.1A	—	—	-0.3	—	—	-0.3	V
Gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -10mA,	—	150	—	—	150	—	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz	—	50	—	—	50	—	pF

\* The 2SB738 and 2SB739 are grouped by h<sub>FE</sub> as follows.

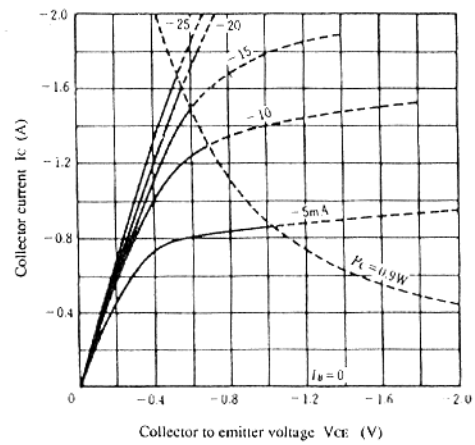
B	C
100 to 200	160 to 320

## 2SB738, 2SB739

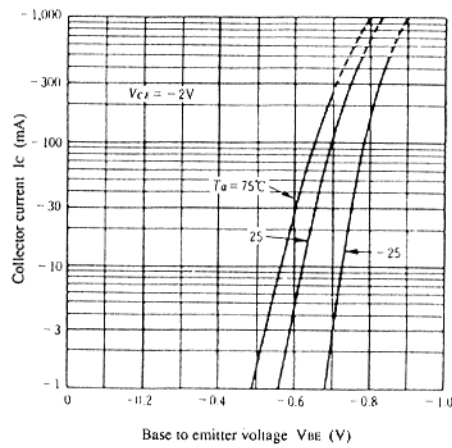
TYPICAL OUTPUT CHARACTERISTICS (1)



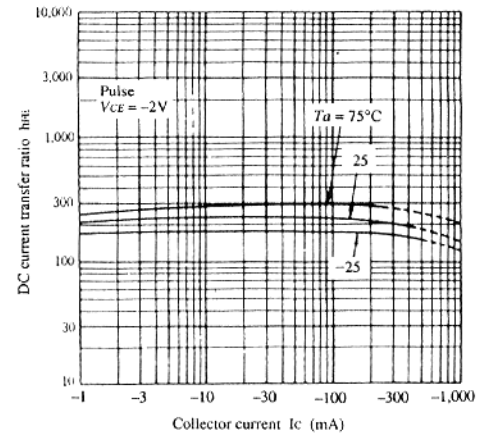
TYPICAL OUTPUT CHARACTERISTICS (2)



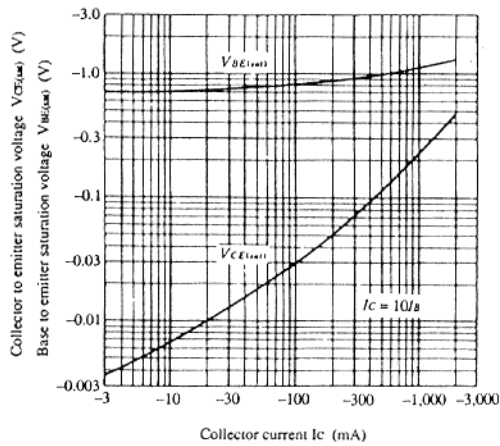
TYPICAL TRANSFER CHARACTERISTICS



DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE

