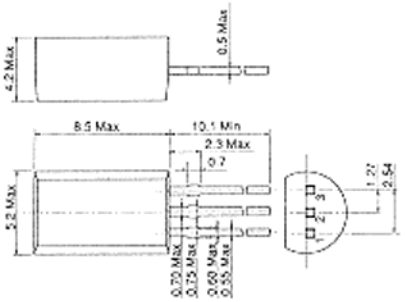
HITACHI

2SD787, 2SD788

SILICON NPN EPITAXIAL

LOW FREQUENCY POWER AMPLIFIER
Complementary pair with 2SB738 and 2SB739



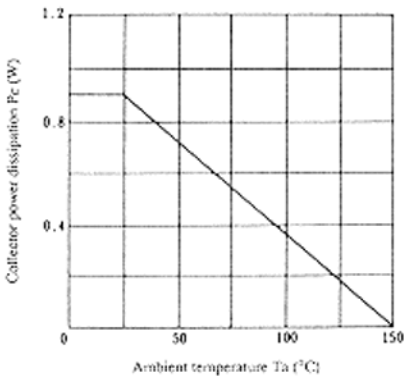
1. Emitter
2. Collector
3. Base
(Dimensions in mm)

(JEDEC TO-92 MOD.)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD787	2SD788	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	T_j	150	150	°C
Storage temperature	T_{stg}	−55 to +150	−55 to +150	°C

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

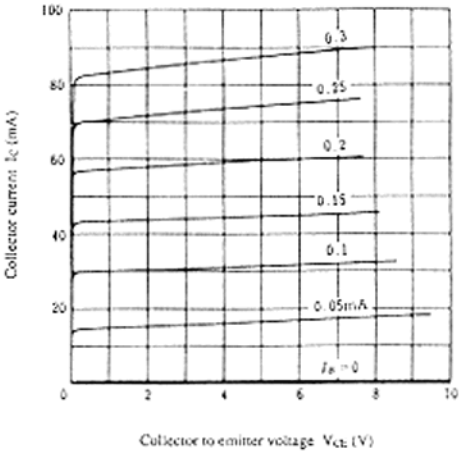
Item	Symbol	Test Condition	2SD787			2SD788			Unit
			min.	typ.	max.	min.	typ.	max.	
Collector to base breakdown voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	20	—	—	20	—	—	V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 1mA, R_{BE} = ∞	16	—	—	20	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	6	—	—	6	—	—	V
Collector cutoff current	I_{CBO}	V_{CB} = 16V, I_E = 0	—	—	2	—	—	2	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 6V, I_C = 0	—	—	0.2	—	—	0.2	μA
DC current transfer ratio	h_{FE}*	V_{CE} = 2V, I_C = 0.1A	100	—	800	100	—	800	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 1A, I_B = 0.1A	—	—	0.3	—	—	0.3	V
Gain bandwidth product	f_T	V_{CE} = 2V, I_C = 10mA	—	100	—	—	100	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	—	20	—	—	20	—	pF

* The 2SD787 and 2SD788 are grouped by h_{FE} as follows.

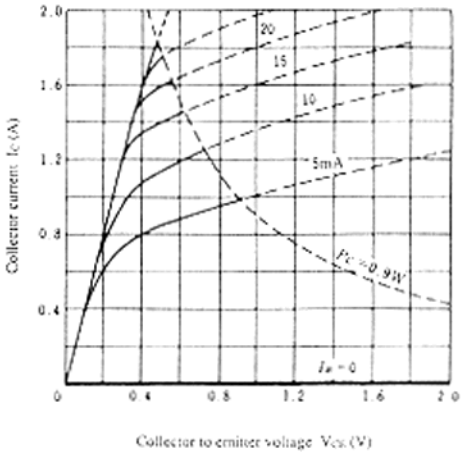
B	C	D	E
100 to 200	160 to 320	250 to 500	400 to 800

2SD787, 2SD788

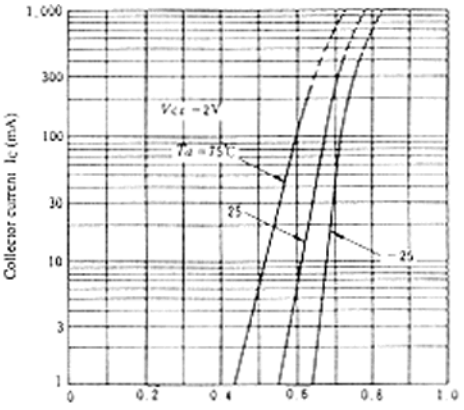
TYPICAL OUTPUT CHARACTERISTICS



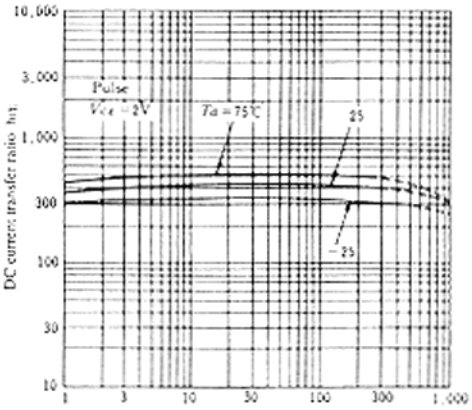
TYPICAL OUTPUT CHARACTERISTICS



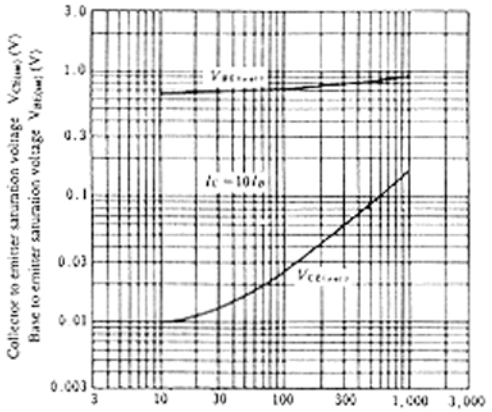
TYPICAL TRANSFER CHARACTERISTICS



DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE