To all our customers

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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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Keep safety first in your circuit designs!

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   Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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2SB566(K), 2SB566A(K)

Silicon PNP Triple Diffused

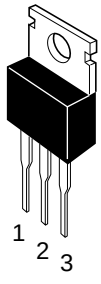
ADE-208-855 (Z)
1st. Edition
September 2000

Application

Low frequency power amplifier power switching complementary pair with 2SD476(K) and 2SD476A(K)

Outline

TO-220AB



1. Base
2. Collector (Flange)
3. Emitter

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings		Unit
		2SB566(K)	2SB566A(K)	
Collector to base voltage	V_{CBO}	–70	–70	V
Collector to emitter voltage	V_{CEO}	–50	–60	V
Emitter to base voltage	V_{EBO}	–5	–5	V
Collector current	I_C	–4	–4	A
Collector peak current	$I_{C(peak)}$	–8	–8	A
Collector power dissipation	P_C*[1]	40	40	W
Junction temperature	Tj	150	150	°C
Storage temperature	Tstg	–55 to +150	–55 to +150	°C

Note: 1. Value at T_C = 25°C.

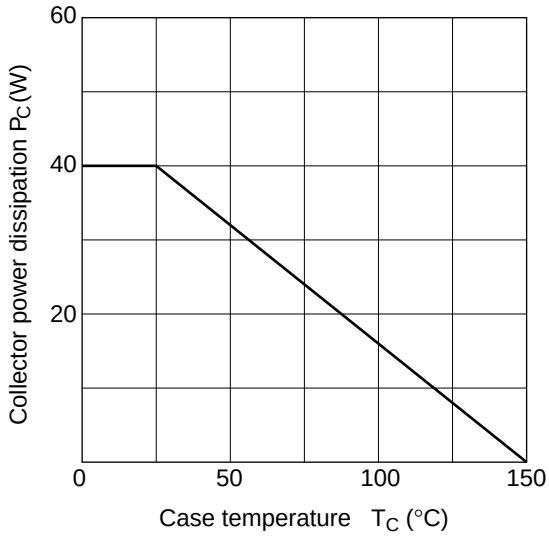
Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SB566(K)			2SB566A(K)			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	–70	—	—	–70	—	—	V	I_C = –10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	–50	—	—	–60	—	—	V	I_C = –50 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	–5	—	—	–5	—	—	V	I_E = –10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	–1	—	—	–1	µA	V_{CB} = –50 V, I_E = 0
DC current tarnsfer ratio	h_{FE1}*[1]	60	—	200	60	—	200		V_{CE} = –4 V, I_C = –1 A
	h_{FE2}	35	—	—	35	—	—		V_{CE} = –4 V, I_C = –0.1 A
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	–1.0	—	—	–1.0	V	I_C = –2 A, I_B = –0.2 A
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	–1.2	—	—	–1.2	V	I_C = –2 A, I_B = –0.2 A
Gain bandwidth product	f_T	—	15	—	—	15	—	MHz	V_{CE} = –4 V, I_C = –0.5 A
Turn on time	t_{on}	—	0.3	—	—	0.3	—	µs	V_{CC} = –10.5 V
Turn off time	t_{off}	—	3.0	—	—	3.0	—	µs	$I_C = 10I_{B1} = -10I_{B2}$ =
Storage time	t_{stg}	—	2.5	—	—	2.5	—	µs	–0.5 A

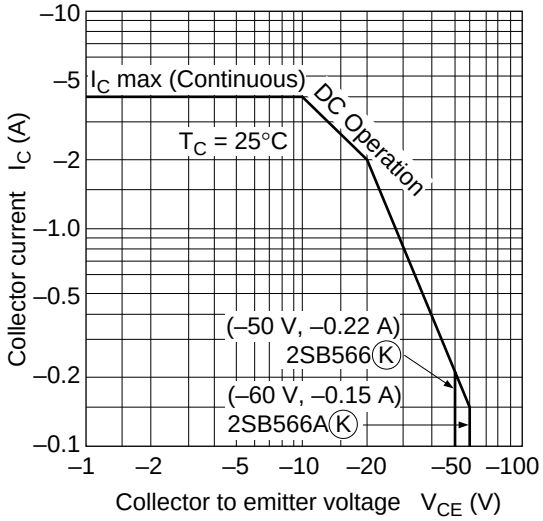
Note: 1. The 2SB566(K) and 2SB566A(K) are grouped by h_{FE1} as follows.

B	C
60 to 120	100 to 200

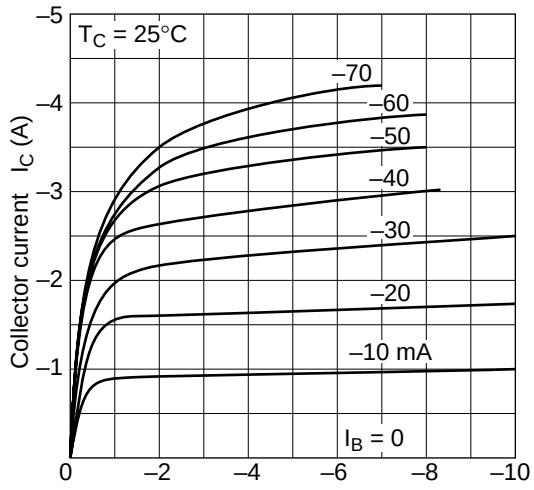
Maximum Collector Dissipation Curve



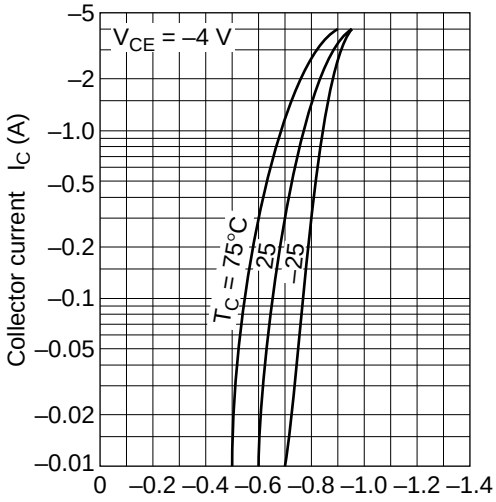
Area Safe Operation



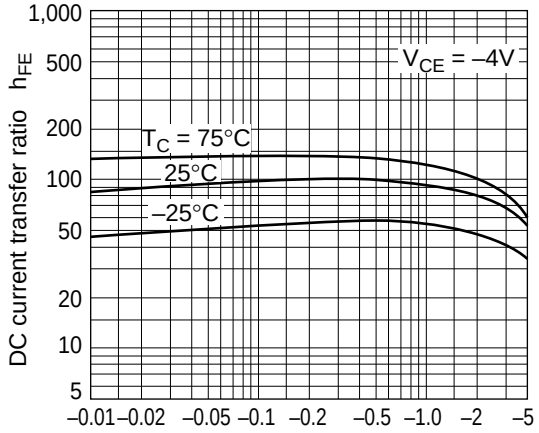
Typical Output Characteristics



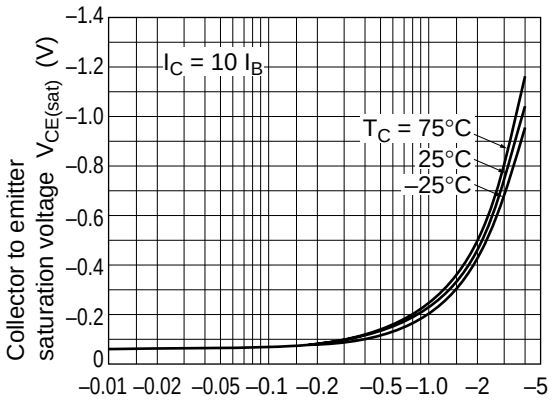
Typical Transfer Characteristics



DC Current Transfer Ratio
vs. Collector Current



Collector to Emitter Saturation Voltage
vs. Collector Current



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