

2SB566(K), 2SB566A(K)

Silicon PNP Triple Diffused
 Low Frequency Power Amplifier Power Switching
 Complementary Pair with 2SD476(K) and 2SD476A(K)

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	2SB	2SB	Unit
		566(K)	566A(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	T_j	150	150	°C
Storage temperature	T_{stg}	-55 to +150	-55 to +150	°C

TO-220AB



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

Note: 1. Value at $T_C = 25^\circ\text{C}$.

Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SB566(K)			2SB566A(K)			Unit	Test condition
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	-70	—	—	-70	—	—	V	$I_C = -10 \mu\text{A}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-50	—	—	-60	—	—	V	$I_C = -50 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	-5	—	—	V	$I_E = -10 \mu\text{A}, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-1	—	—	-1	μA	$V_{CB} = -50 \text{ V}, I_E = 0$
DC current transfer ratio	h_{FE1}^{*1}	60	—	200	60	—	200		$V_{CE} = -4 \text{ V}, I_C = -1 \text{ A}$
	h_{FE2}	35	—	—	35	—	—		$V_{CE} = -4 \text{ V}, I_C = -0.1 \text{ A}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-1.0	—	—	-1.0	V	$I_C = -2 \text{ A}, I_B = -0.2 \text{ A}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	-1.2	—	—	-1.2	V	$I_C = -2 \text{ A}, I_B = -0.2 \text{ A}$
Gain bandwidth product	f_T	—	7	—	—	7	—	MHz	$V_{CE} = -4 \text{ V}, I_C = -0.5 \text{ A}$

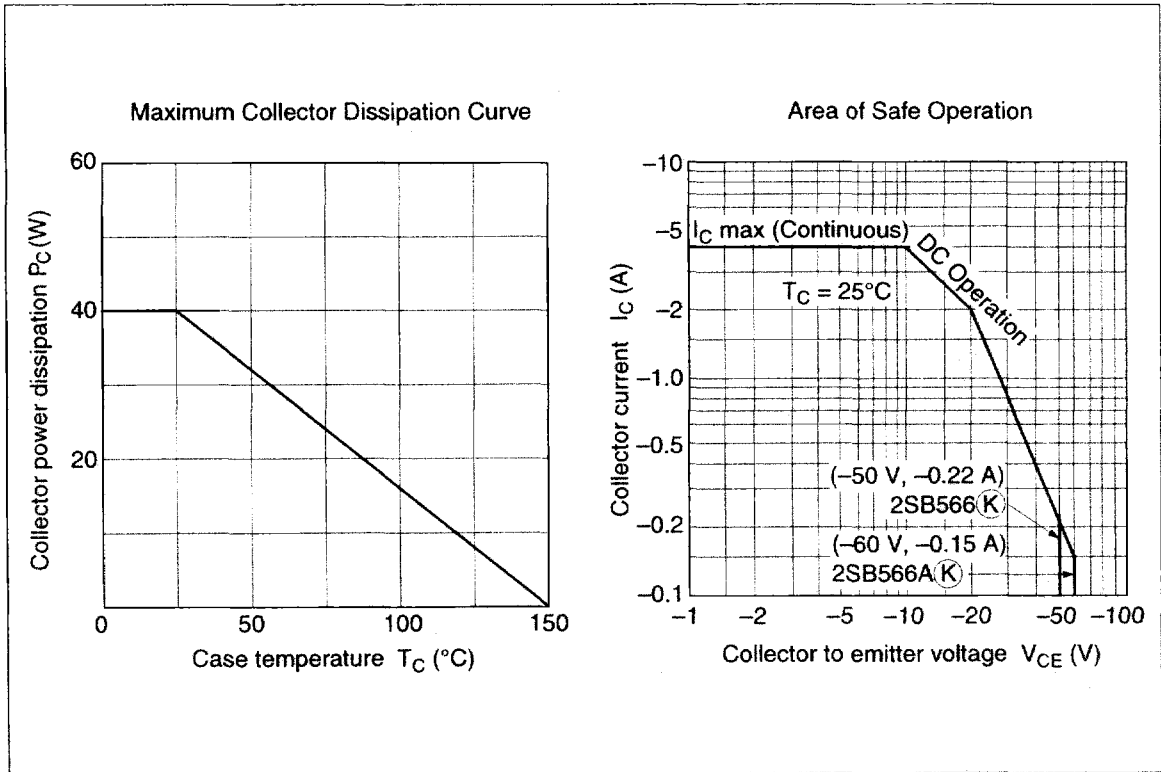
2SB566(K), 2SB566A(K)

Electrical Characteristics (Ta = 25°C) (cont)

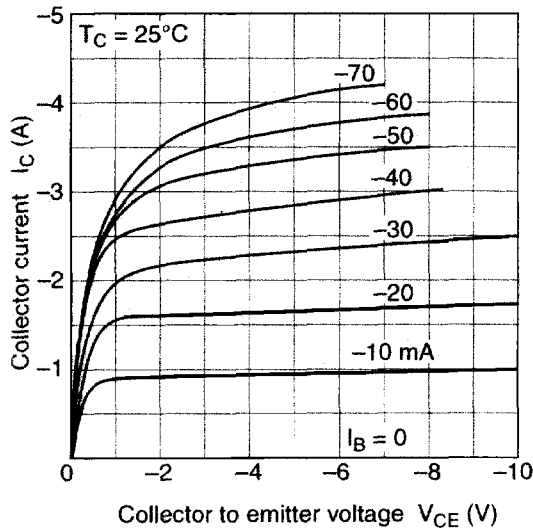
Item	Symbol	2SB566(K)			2SB566A(K)			Unit	Test condition
		Min	Typ	Max	Min	Typ	Max		
Turn on time	t_{on}	—	0.3	—	—	0.3	—	μs	$V_{CC} = -10.5 V$ $I_C = 10 I_{B1} = -10 I_{B2} = -0.5 A$
Turn off time	t_{off}	—	3.0	—	—	3.0	—	μs	
Storage time	t_{stg}	—	2.5	—	—	2.5	—	μs	

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

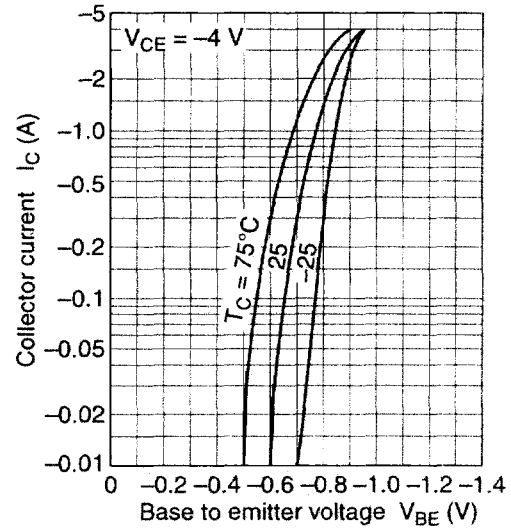
B	C
60 to 120	100 to 200



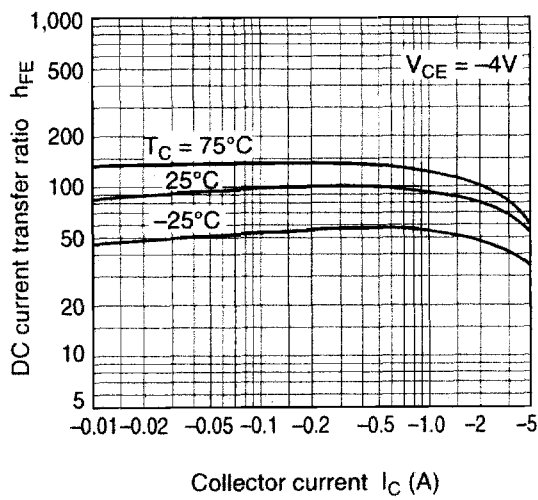
Typical Output Characteristics



Typical Transfer Characteristics



DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current

