
2SD476(K), 2SD476A(K)

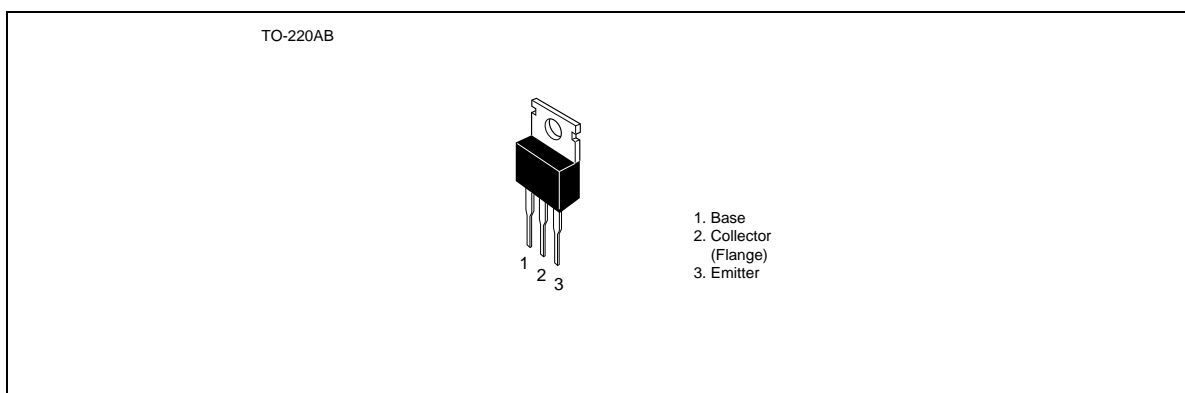
Silicon NPN Triple Diffused

HITACHI

Application

Power switching complementary pair with 2SB566(K) and 2SB566A(K)

Outline



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item	Symbol	Ratings		Unit
		2SD476(K)	2SD476A(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	$I_{C(\text{peak})}$	8	8	A
Collector power dissipation	P_C^{*1}	40	40	W
Junction temperature	T_j	150	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	-55 to +150	$^\circ\text{C}$

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

2SD476(K), 2SD476A(K)

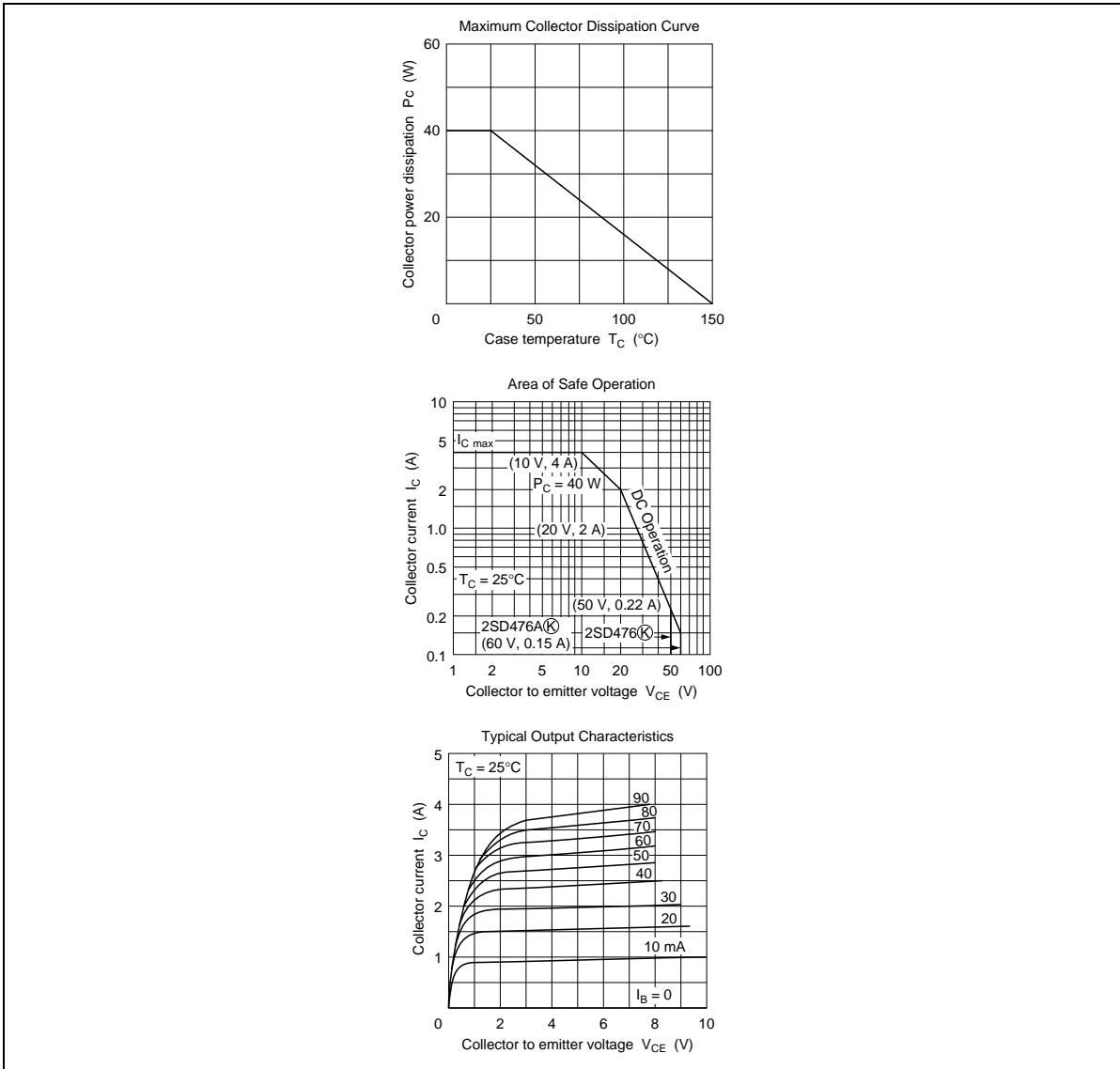
Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SD476(K)			2SD476A(K)			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	70	—	—	70	—	—	V	$I_C = 10 \mu A, I_E = 0$
Emitter 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	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	1	—	—	1	μA	$V_{CB} = 50 \text{ V}, I_E = 0$
DC current transfer ratio	h_{FE1}	60	—	200	60	—	200		$V_{CE} = 4 \text{ V}, I_C = 1 \text{ A}$ (Pulse test)
	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	
Gain bandwidth product	f_T	—	7	—	—	7	—	MHz	$V_{CE} = 4 \text{ V}, I_C = 0.5 \text{ A}$
Turn on time	t_{on}	—	0.3	—	—	0.3	—	μs	$V_{CC} = 10.5 \text{ V}$ $I_C = 10 \text{ mA}, I_{B1} = -10 \text{ mA}, I_{B2} = 0.5 \text{ A}$
Turn off time	t_{off}	—	3.0	—	—	3.0	—	μs	
Storage time	t_{stg}	—	2.5	—	—	2.5	—	μs	

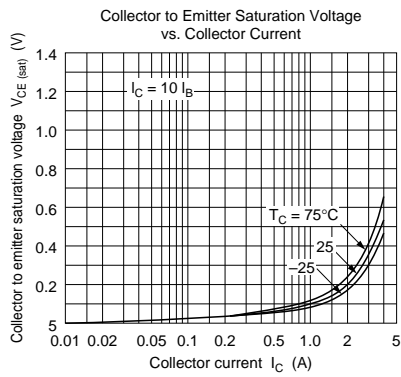
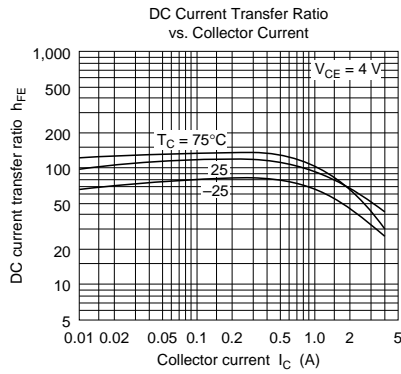
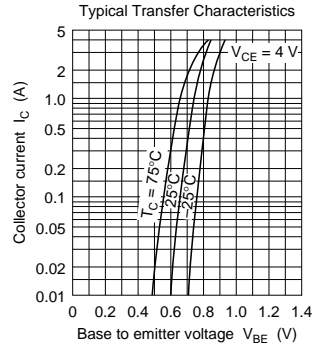
Note: 1. The 2SD476(K) and 2SD476A(K) are grouped by h_{FE1} as follows.

B	C
60 to 120	100 to 200

2SD476(K), 2SD476A(K)



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