
2SD864(K)

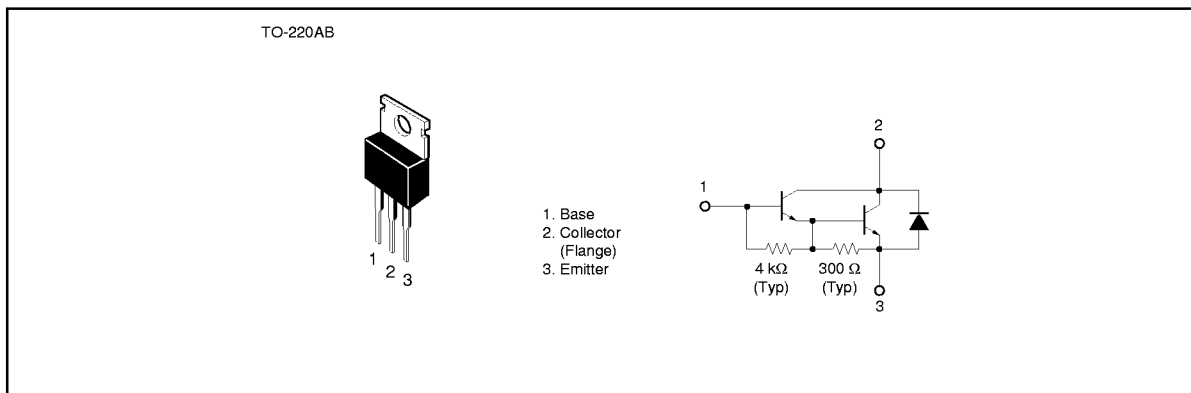
Silicon NPN Triple Diffused

HITACHI

Application

Medium speed and power switching complementary pair with 2SB765(K)

Outline



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

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	120	V
Collector to emitter voltage	V_{CEO}	120	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	3	A
Collector peak current	$I_{C(\text{peak})}$	6	A
Collector power dissipation	P_C^{*1}	30	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

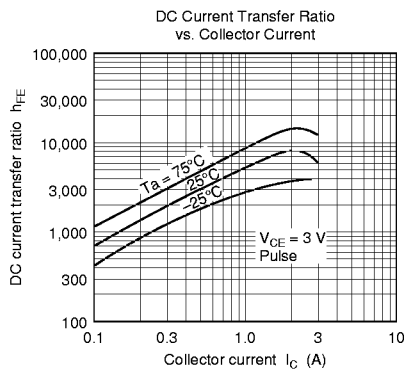
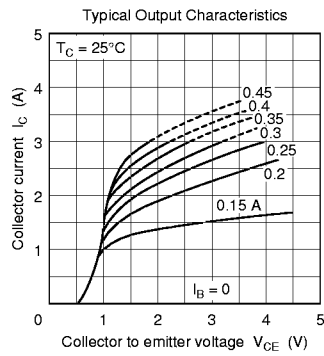
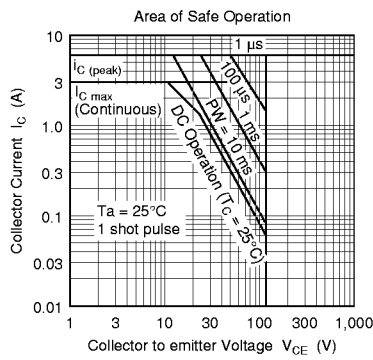
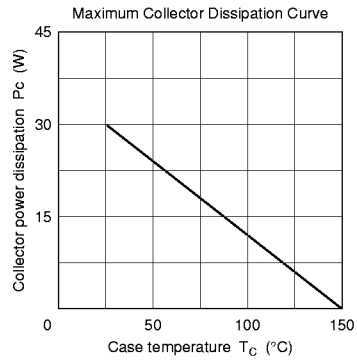
Note: 1. Value at $T_c = 25^\circ\text{C}$.

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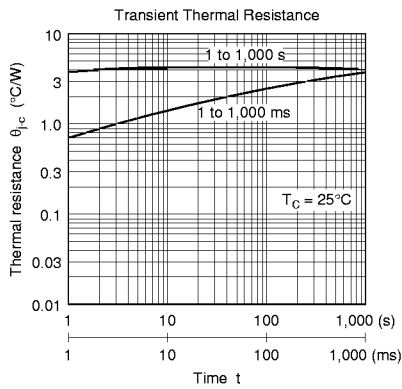
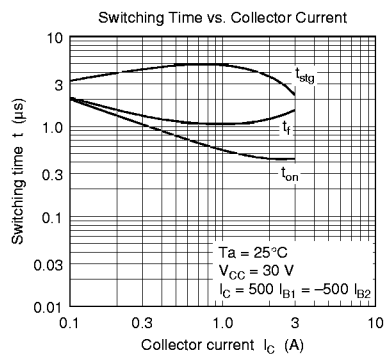
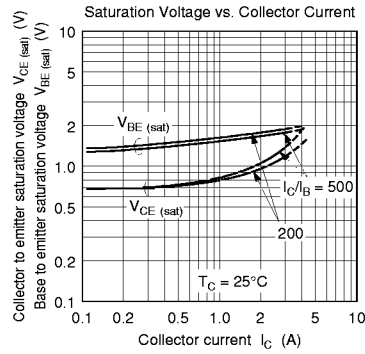
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 25 \text{ mA}$, $R_{BE} = _$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50 \text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	100	μA	$V_{CB} = 120 \text{ V}$, $I_E = 0$
	I_{CEO}	—	—	10	μA	$V_{CE} = 100 \text{ V}$, $R_{BE} = _$
DC current transfer ratio	h_{FE}	1000	—	20000		$V_{CE} = 3 \text{ V}$, $I_C = 1.5 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	1.5	V	$I_C = 1.5 \text{ A}$, $I_B = 3 \text{ mA}^{*1}$
	$V_{CE(sat)2}$	—	—	3.0	V	$I_C = 3 \text{ A}$, $I_B = 30 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	2.0	V	$I_C = 1.5 \text{ A}$, $I_B = 3 \text{ mA}^{*1}$
	$V_{BE(sat)2}$	—	—	3.5	V	$I_C = 3 \text{ A}$, $I_B = 30 \text{ mA}^{*1}$
Turn on time	t_{on}	—	0.5	—	μs	$I_C = 1.5 \text{ A}$, $I_{B1} = -I_{B2} = 3 \text{ mA}$
Storage time	t_{stg}	—	4.5	—	μs	
Fall time	t_f	—	1.1	—	μs	

Note: 1. Pulse test.



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