2SB727(K)

Silicon PNP Epitaxial

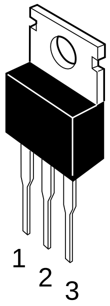
HITACHI

Application

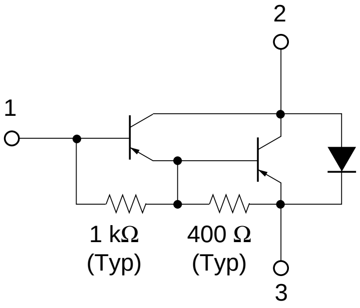
Medium speed and power switching complementary pair with 2SD768(K)

Outline

TO-220AB



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



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	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	–6	A
Collector peak current	$I_{C(peak)}$	–10	A
Collector power dissipation	$P_C{}^{*1}$	40	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Note: 1. Value at T_C = 25°C

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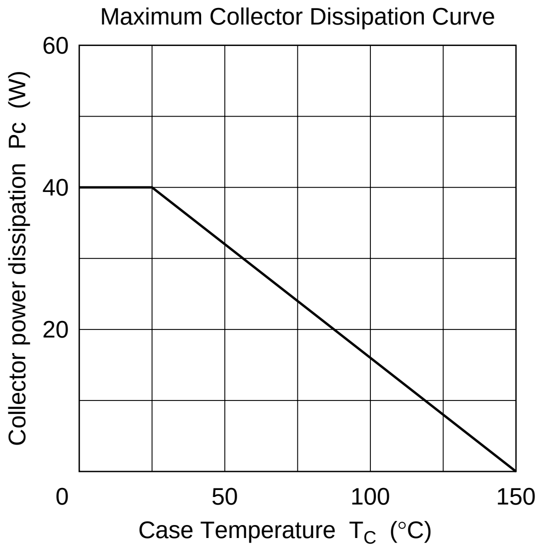
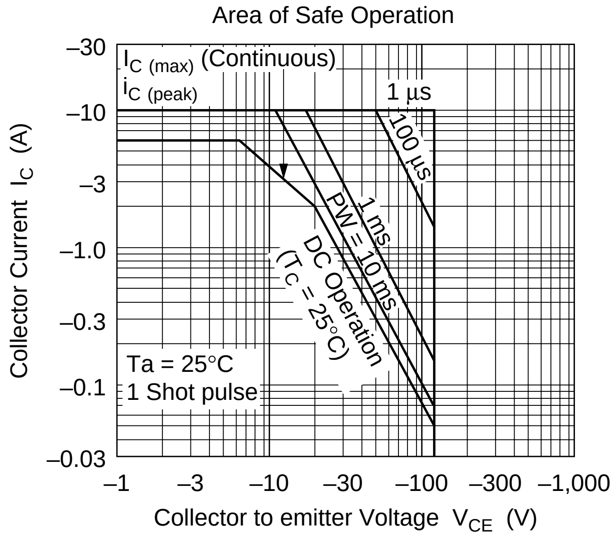
Electrical Characteristics (Ta = 25°C)

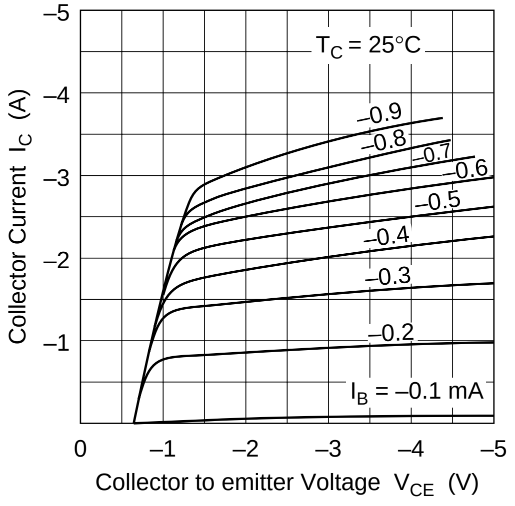
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	–120	—	—	V	I_C = –25 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	–7	—	—	V	I_E = –50 mA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	–100	µA	V_{CB} = –120 V, I_E = 0
	I_{CEO}	—	—	–10	µA	V_{CE} = –100 V, R_{BE} = ∞
DC current transfer ratio	h_{FE}	1000	—	20000		V_{CE} = –3 V, I_C = –3 A*1
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	–1.5	V	I_C = –3 A, I_B = –6 mA*1
	$V_{CE(sat)2}$	—	—	–3.0	V	I_C = –6 A, I_B = –60 mA*1
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	–2.0	V	I_C = –3 A, I_B = –6 mA*1
	$V_{BE(sat)2}$	—	—	–3.5	V	I_C = –6 A, I_B = –60 mA*1
Turn on time	t_{on}	—	1.0	—	µs	I_C = –3 A, I_{B1} = $–I_{B2}$ = –6 mA
Turn off time	t_{off}	—	3.0	—	µs	

Note: 1. Pulse test

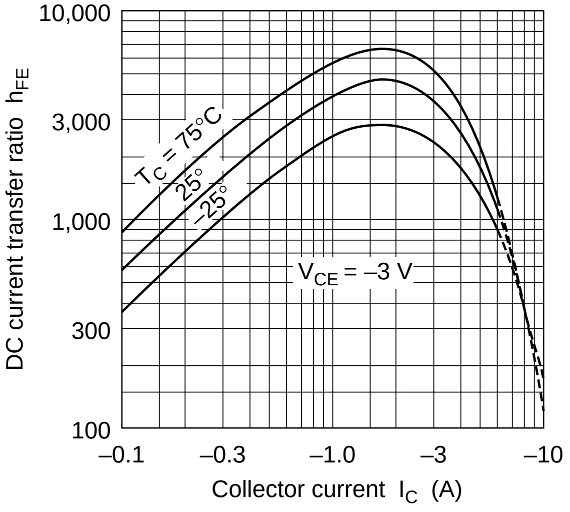




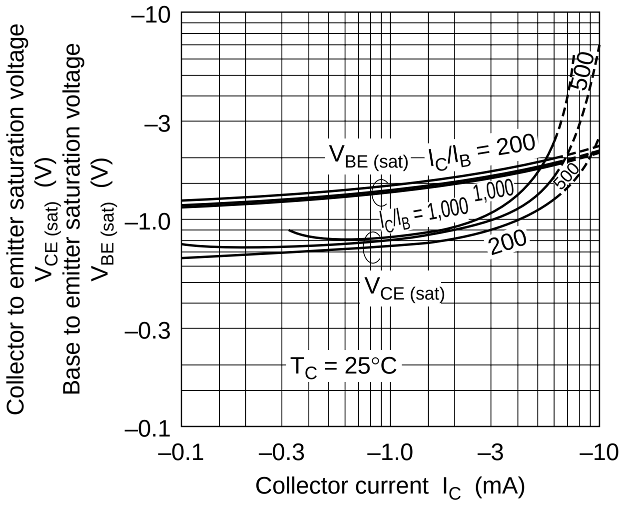
Typical Output Characteristics



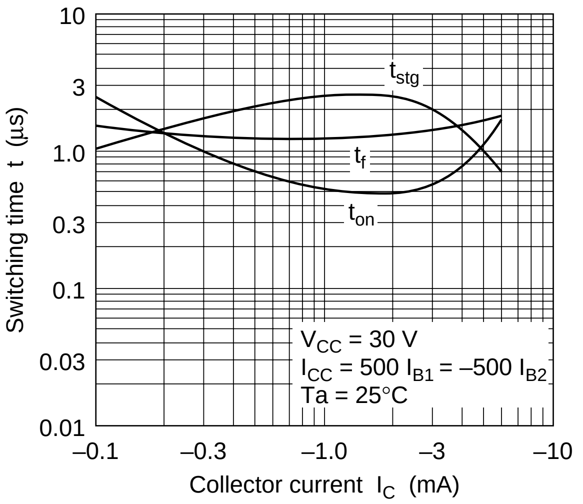
DC Current Transfer Ratio vs. Collector Current

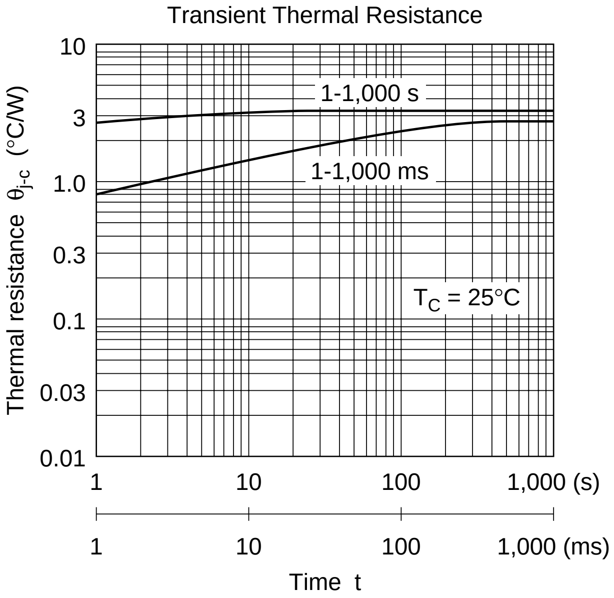


Saturation Voltage vs. Collector Current

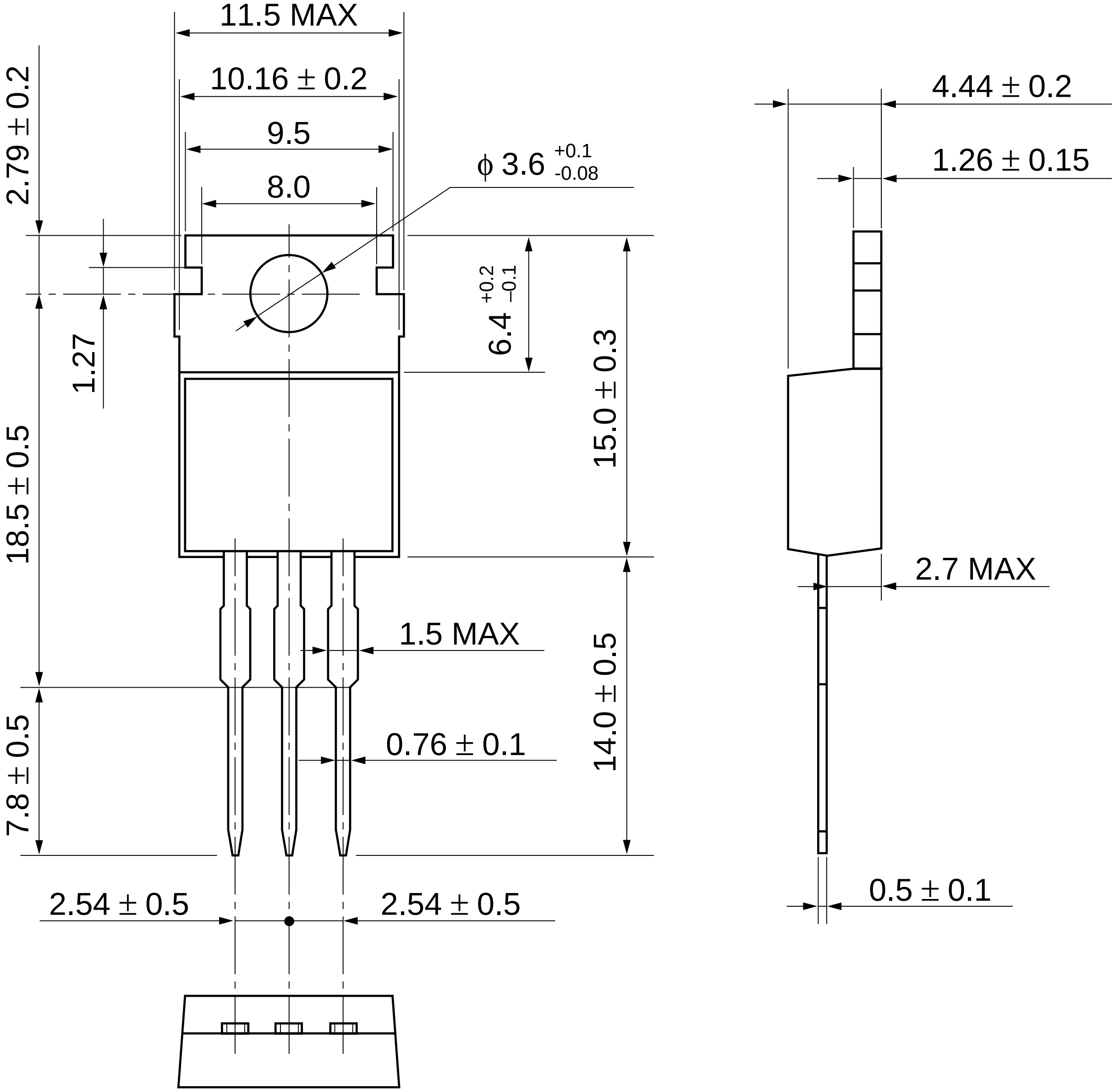


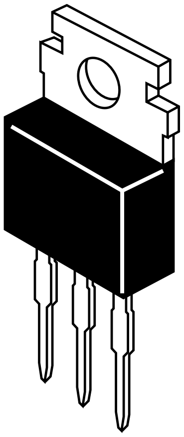
Switching Time vs. Collector Current




Transient Thermal Resistance
Thermal resistance θj-c (°C/W)
10
3
1.0
0.3
0.1
0.03
0.01
1-1,000 s
1-1,000 ms
TC = 25°C
1
10
100
1,000 (s)
1
10
100
1,000 (ms)
Time t

Unit: mm





Hitachi Code	TO-220AB
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	1.8 g

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