2SD1127(K)

Silicon NPN Triple Diffused

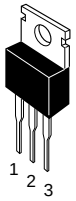
HITACHI

Application

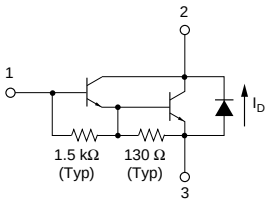
Power switching

Outline

TO-220AB



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



Absolute Maximum Ratings (Ta = 25°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	10	A
Collector peak current	$I_{C(peak)}$	15	A
Collector power dissipation	P_C*[1]	50	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C
C to E diode forward current	I_D*[1]	10	A

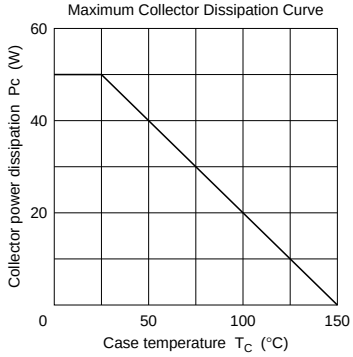
Note: 1. Value at T_C = 25°C.

Electrical Characteristics (Ta = 25°C)

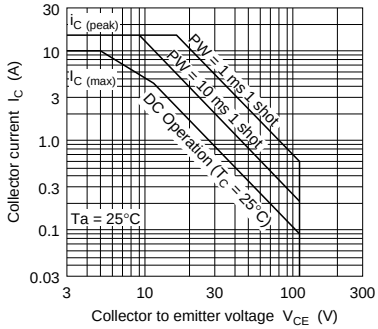
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter sustain voltage	$V_{CEO(sus)}$	120	—	—	V	I_C = 200 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	I_E = 200 mA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	100	µA	V_{CB} = 120 V, I_E = 0
DC current transfer ratio	h_{FE}	1000	—	—		V_{CE} = 2 V, I_C = 10 A*[1]
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	I_C = 10 A, I_B = 25 mA*[1]
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	2.0	V	
Turn on time	t_{on}	—	0.8	—	µs	I_C = 5 A, I_{B1} = –I_{B2} = 10 mA
Turn off time	t_{off}	—	8.0	—	µs	

Note: 1. Pulse test.

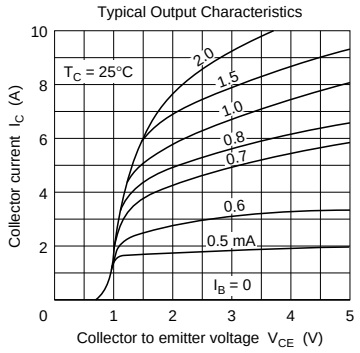
Maximum Collector Dissipation Curve



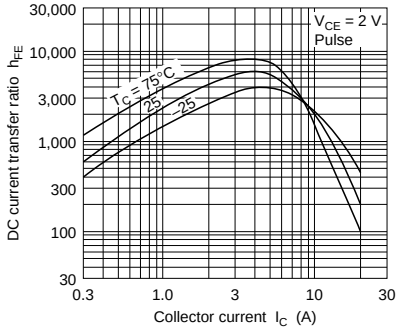
Area of Safe Operation



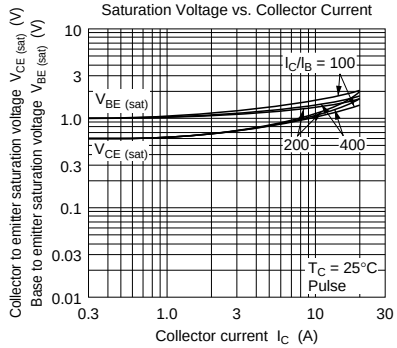
Typical Output Characteristics



DC Current Transfer Ratio
vs. Collector Current



Saturation Voltage vs. Collector Current



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