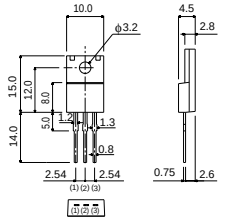
Power Transistor (–100V, –8A)

2SB1668

●Features

1) Darlington connection for high DC current gain.
2) Built-in resistor between base and emitter.
3) Built-in damper diode.
4) Complements the 2SD2607.

●External dimensions (Units : mm)



(1) Base(Gate)
(2) Collector(Drain)
(3) Emitter(Source)

ROHM : TO-220FN

●Absolute maximum ratings (Ta = 25°C)

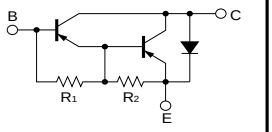
Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	–100	V
Collector-emitter voltage	V_{CEO}	–100	V
Emitter-base voltage	V_{EBO}	–7	V
Collector current	I_C	–8	A (DC)
		–10	A (Pulse) ∗
Power dissipation	P_C	2	W
		30	W (Tc = 25°C)
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 ~ +150	°C

∗ Single pulse, Pw = 100ms

●Packaging specifications and h_{FE}

Type	2SB1668
Package	TO-220FN
h_{FE}	1k~20k
Code	-
Basic ordering unit (pieces)	500

●Circuit diagram



R1≒5kΩ
R2≒300kΩ

B : Base
C : Collector
E : Emitter

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage	BV_{CBO}	–100	–	–	V	I_C = –50μA	
Collector-emitter breakdown voltage	BV_{CEO}	–100	–	–	V	I_C = –5mA	
Collector cutoff current	I_{CBO}	–	–	–10	μA	V_{CB} = –100V	
Emitter cutoff current	I_{EBO}	–	–	–3	mA	V_{EB} = –5V	
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–1.0	–1.5	V	I_C/I_B = –3A/–6mA	∗1
DC current transfer ratio	h_{FE}	1000	10000	20000	–	V_{CE}/I_C = –3V/–2A	∗1
Transition frequency	f_T	–	12	–	MHz	V_{CE} = –5V , I_E = 0.5A , f = 10MHz	∗2
Output capacitance	Cob	–	90	–	pF	V_{CB} = –10V , I_E = 0A , f = MHz	

∗1 Measured using pulse current. ∗2 Transition frequency of the device.