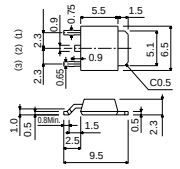
High-voltage Switching Transistor (–400V, –2A)

2SA1862

●Features

1) High breakdown voltage. (BV_{CEO} = –400V)
2) Low saturation voltage.
   (Typ. $V_{CE\ (sat)}$ = –0.3V at I_C / I_B = –500mA / –100mA)
3) High switching speed, typically tf = 0.4μs at I_C = –1A.
4) Wide SOA (safe operating area).

●External dimensions (Units : mm)



ROHM : CPT3
EIAJ : SC-63

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

●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	–400	V
Collector-emitter voltage	V_{CEO}	–400	V
Emitter-base voltage	V_{EBO}	–7	V
Collector current	I_C	–2	A (DC)
		–4	A (Pulse) *
Collector power dissipation	P_C	1	W
		10	W (Tc = 25°C)
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55~+150	°C

* Single pulse, Pw = 10ms

●Packaging specifications and h_{FE}

Type	2SA1862
Package	CPT3
h_{FE}	P
Code	TL
Basic ordering unit (pieces)	2500

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–400	–	–	V	I_C = –50μA
Collector-emitter breakdown voltage	BV_{CEO}	–400	–	–	V	I_C = –1mA
Emitter-base breakdown voltage	BV_{EBO}	–7	–	–	V	I_E = –50μA
Collector cutoff current	I_{CBO}	–	–	–10	μA	V_{CB} = –400V
Emitter cutoff current	I_{EBO}	–	–	–10	μA	V_{EB} = –5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–0.3	–0.5	V	I_C/I_B = –0.5A / –0.1A
Base-emitter saturation voltage	$V_{CE(sat)}$	–	–	–1.2	V	I_C/I_B = –0.5A / –0.1A
DC current transfer ratio	h_{FE}	82	–	180	–	V_{CE} = –5V, I_C = –0.1A
Transition frequency	f_T	–	18	–	MHz	V_{CB} = –10V, I_E = 0.1A, f = 5MHz
Output capacitance	Cob	–	30	–	pF	V_{CE} = –10V, I_E = 0A, f = 1MHz
Turn-on time	ton	–	0.2	–	μs	I_C = –1A, R_L = 150Ω
Storage time	tstg	–	1.8	–	μs	I_{B1} = –I_{B2} = –0.2A
Fall time	tf	–	0.4	–	μs	V_{CC} ≃150V