

Transistors

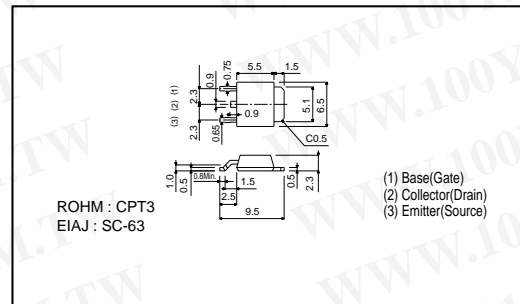
# High-voltage Switching Transistor (-400V, -2A)

## 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  $t_f = 0.4\mu s$  at  $I_C = -1A$ .
- 4) Wide SOA (safe operating area).

### ●External dimensions (Units : mm)



### ●Absolute maximum ratings ( $T_a = 25^\circ C$ )

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 ( $T_C = 25^\circ C$ )
Junction temperature	$T_J$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55~+150	$^\circ C$

\* Single pulse,  $P_w = 10ms$

### ●Packaging specifications and hFE

Type	2SA1862
Package	CPT3
hFE	P
Code	TL
Basic ordering unit (pieces)	2500

### ●Electrical characteristics ( $T_a = 25^\circ C$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	-400	-	-	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	-400	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	-7	-	-	V	$I_E = -50\mu A$
Collector cutoff current	$I_{CBO}$	-	-	-10	$\mu A$	$V_{CB} = -400V$
Emitter cutoff current	$I_{EBO}$	-	-	-10	$\mu A$	$V_{EB} = -5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-0.3	-0.5	V	$I_C/I_B = -0.5A / -0.1A$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-1.2	-	V	$I_C/I_B = -0.5A / -0.1A$
DC current transfer ratio	hFE	82	-	180	-	$V_{CE} = -5V, I_C = -0.1A$
Transition frequency	f <sub>T</sub>	-	18	-	MHz	$V_{CB} = -10V, I_E = 0.1A, f = 5MHz$
Output capacitance	C <sub>ob</sub>	-	30	-	pF	$V_{CE} = -10V, I_E = 0A, f = 1MHz$
Turn-on time	t <sub>on</sub>	-	0.2	-	$\mu s$	$I_C = -1A, R_L = 150\Omega$
Storage time	t <sub>stg</sub>	-	1.8	-	$\mu s$	$I_{B1} = -I_{B2} = -0.2A$
Fall time	t <sub>f</sub>	-	0.4	-	$\mu s$	$V_{CC} \approx 150V$