

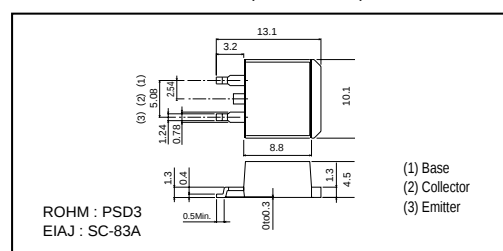
High-voltage Switching Transistor (400V, 5A)

2SC4938

●Features

- 1) Low $V_{CE(sat)}$. (Typ. 0.6V at $I_C / I_B=5/1A$)
- 2) Fast switching. (t_f :Max.1 μs at $I_C=4A$)
- 3) 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	5	A
	I_{CP}	7	A *
Collector power dissipation	P_C	1.5	W
		35	W($T_C=25^\circ C$)
Junction temperature	T_J	150	$^\circ C$
Storage temperature	T_{stg}	-55~+150	$^\circ C$

* Single pulse, $P_w=100ms$.

●Packaging specifications and h_{FE}

Type	2SC4938
Package	PSD3
h_{FE}	B
Code	TL
Basic ordering unit (pieces)	1000

●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	μA	$V_{CB}=400V$
Emitter cutoff current	I_{EBO}	-	-	10	μA	$V_{EB}=5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	1	V	$I_C/I_B=5A/1A$ *
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	1.5	V	$I_C/I_B=5A/1A$ *
DC current transfer ratio	h_{FE}	25	-	50	-	$V_{CE}/I_C=5V/2A$
Transition frequency	f_T	-	15	-	MHz	$V_{CB}=10V, I_E=-0.5A, f=5MHz$ *
Output capacitance	C_{ob}	-	80	-	pF	$V_{CB}=10V, I_E=0A, f=1MHz$
Turn-on time	t_{on}	-	-	1	μs	$I_C=4A, R_L=50\Omega$
Storage time	t_{stg}	-	-	2.5	μs	$I_{B1}=-I_{B2}=0.4A$
Fall time	t_f	-	-	1	μs	$V_{CC}=200V$

* Measured using pulse current.