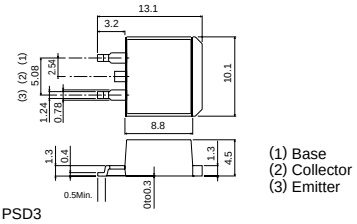
High-Voltage Switching Transistor (400V, 2A)

2SC5531

●Features

1) Low $V_{CE(sat)}$.
   $V_{CE(sat)}$=0.15V (Typ.)
   (I_C / I_B =1A / 0.2A)
2) High breakdown voltage.
   V_{CEO}=400V
3) Fast switching.
   tf ≤1.0μs
   (I_C=0.8A)

●External dimensions (Units : mm)



ROHM : PSD3
EIAJ : SC-83A

●Structure

Three-layer, diffused planar type NPN silicon transistor.

●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)
	I_{CP}	4	A(Pulse) *
Collector 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=10ms

●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}=7V
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	1	V	I_C/I_B=1A/0.2A
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	1.5	V	I_C/I_B=1A/0.2A
DC current transfer ratio	h_{FE}	25	-	50	-	V_{CE}=5V, I_C=0.1A
Transition frequency	f_T	-	10	-	MHz	V_{CE}=10V,I_E=-0.5A,f=5MHz *1
Output capacitance	Cob	-	30	-	pF	V_{CB}=10V, I_E=0A, f=1MHz
Turn-on time	t_{ON}	-	-	1	μs	I_C=0.8A, R_L=250Ω
Storage time	tstg	-	-	2.5	μs	I_{B1}=-I_{B2}=0.08A V_{CC} ≒200V Refer to measurement circuit diagram
Fall time	tf	-	-	1	μs	

*1 Measured using pulse current

●Packaging specifications and h_{FE}

Type	2SC5531
Package	PSD3
h_{FE}	B
Code	-
Basic ordering unit (pieces)	500