

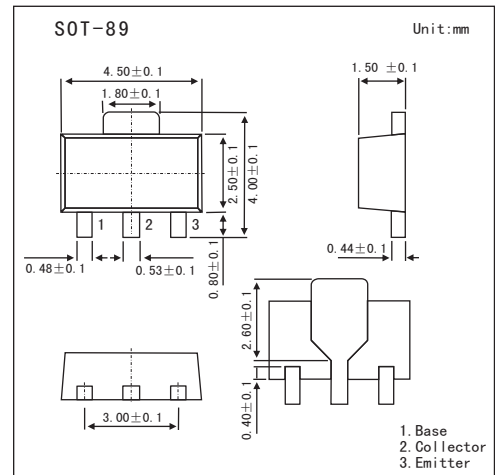
High-voltage Switching Transistor

2SA1812

Features

High breakdown voltage.

Low saturation voltage.

Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	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 (DC)	-0.5	A
	I_C (Pulse) *1	-1	A
Collector power dissipation	P_C	0.5	W
	P_C *2	2	W
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{STG}	-55 to 150	$^\circ\text{C}$

*1 Single pulse

*2 When mounted on a 40X40X0.7mm ceramic board.

2SA1812

Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -50\mu A, I_E = 0$	-400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_C = -50\mu A, I_C = 0$	-7			V
Collector cut-off current	I_{CBO}	$V_{CB} = -400V$			-10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -6V$			-10	μA
DC current gain	h_{FE}	$V_{CE} = -5V, I_C = -50mA$	82		270	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -10mA$			-1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100mA, I_B = -10mA$			-1.2	V
Transition frequency	f_T	$V_{CE} = -5V, I_C = -50mA, f = 5MHz$		12		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$		18		pF
Turn-on time	t_{on}	$I_C = -100mA, R_L = 1.5K\Omega, I_{B1} = -I_{B2} = -10mA, V_{CC} = -150V$		0.6		μs
Storage time	t_{stg}			2.7		μs
Fall time	t_f			1		μs

hFE Classification

Marking	AJP	AJQ
Rank	P	Q
Range	82 180	120 270