

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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2SA1806G

Silicon PNP epitaxial planar type

For high speed switching

■ Features

- High speed switching
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- SS-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-15	V
Collector-emitter voltage (Base open)	V_{CEO}	-15	V
Emitter-base voltage (Collector open)	V_{EBO}	-4	V
Collector current	I_C	-50	mA
Peak collector current	I_{CP}	-100	mA
Collector power dissipation	P_C	125	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

■ Package

- Code SSMini3-F3
- Marking Symbol: AK
- Pin Name
 1. Base
 2. Emitter
 3. Collector

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -8 \text{ V}$, $I_E = 0$			-0.1	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{CE} = -3 \text{ V}$, $I_C = 0$			-0.1	μA
Forward current transfer ratio	h_{FE1} *	$V_{CE} = -1 \text{ V}$, $I_C = -10 \text{ mA}$	50		150	—
	h_{FE2}	$V_{CE} = -1 \text{ V}$, $I_C = -1 \text{ mA}$	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10 \text{ mA}$, $I_B = -1 \text{ mA}$		-0.1	-0.2	V
Transition frequency	f_T	$V_{CB} = -10 \text{ V}$, $I_E = 10 \text{ mA}$, $f = 200 \text{ MHz}$	800	1 500		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -5 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$		1		pF
Turn-on time	t_{on}	Refer to the switching time measurement circuit		12		ns
Turn-off time	t_{off}			20		ns
Storage time	t_s			19		ns

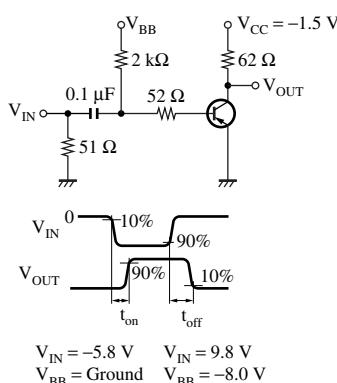
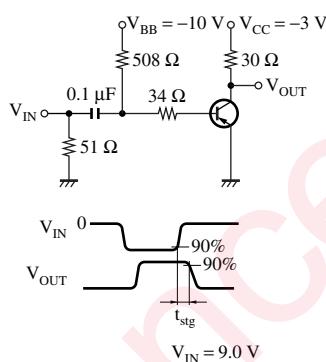
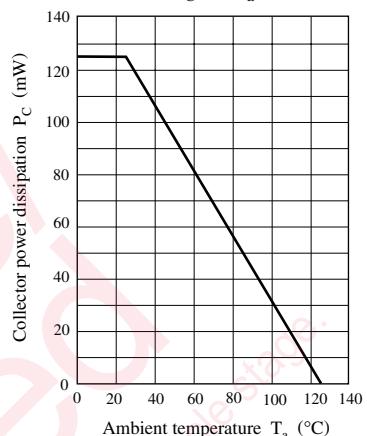
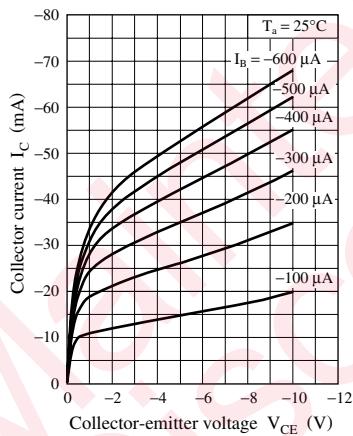
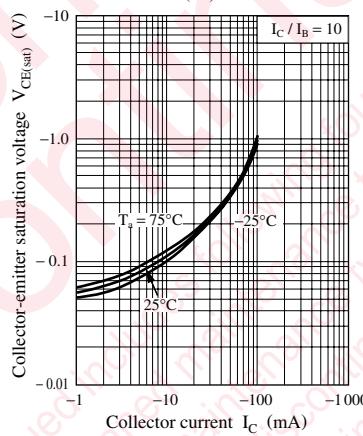
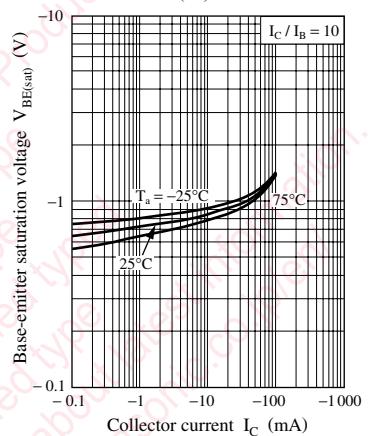
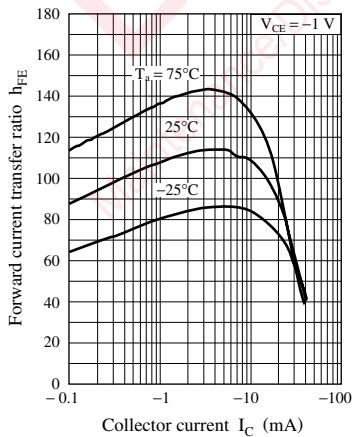
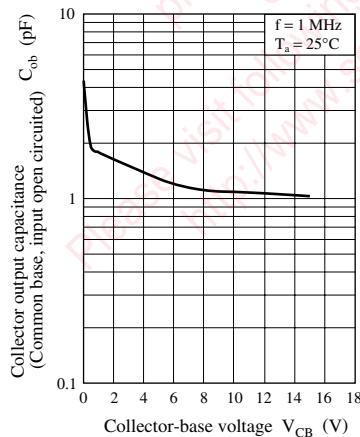
(Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

Rank	Q	R
h_{FE1}	50 to 120	90 to 150

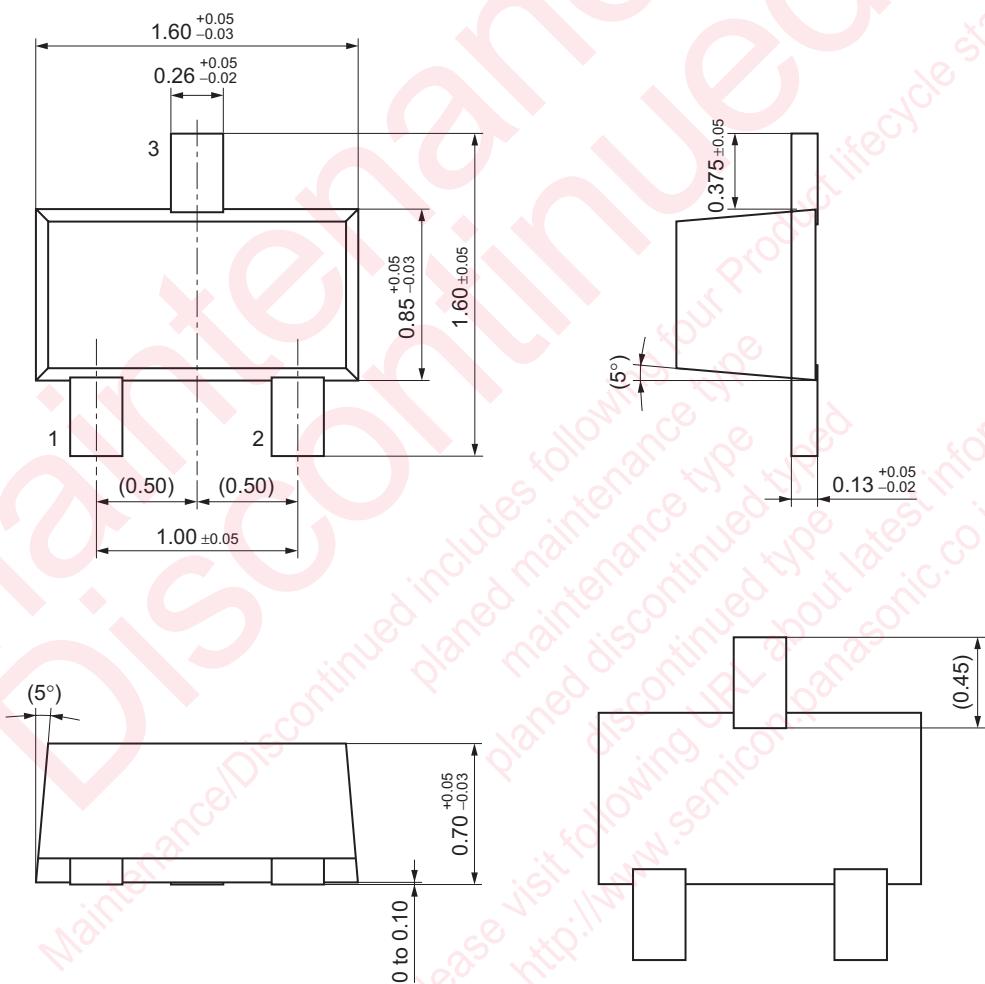
Ranking is not given for any product.

Switching time measurement circuit

 t_{on}, t_{off} Test circuit t_{stg} Test circuit $P_C - T_a$  $I_C - V_{CE}$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$  $C_{ob} - V_{CB}$ 

SSMini3-F3

Unit: mm



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