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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2SB1220G

Silicon PNP epitaxial planar type

For high breakdown voltage low-noise amplification
Complementary to 2SD1821G

■ Features

- High collector-emitter voltage (Base open) V_{CEO}
- Low noise voltage NV
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

■ Package

- Code
  SMini3-F2
- Marking Symbol: I
- Pin Name
  1. Base
  2. Emitter
  3. Collector

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	−150	V
Collector-emitter voltage (Base open)	V_{CEO}	−150	V
Emitter-base voltage (Collector open)	V_{EBO}	−5	V
Collector current	I_C	−50	mA
Peak collector current	I_{CP}	−100	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

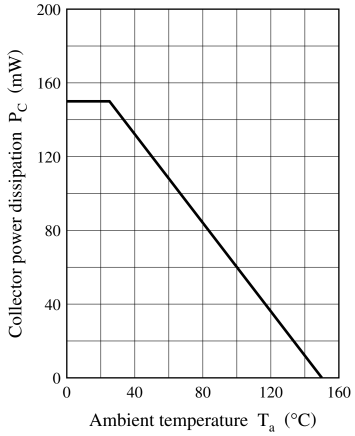
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -100$ µA, $I_B = 0$	−150			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = -10$ µA, $I_C = 0$	−5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -100$ V, $I_E = 0$			−1	µA
Forward current transfer ratio *	h_{FE}	$V_{CE} = -5$ V, $I_C = -10$ mA	130		450	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -30$ mA, $I_B = -3$ mA			−1	V
Transition frequency	f_T	$V_{CB} = -10$ V, $I_E = 10$ mA, f = 200 MHz		200		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz		4		pF
Noixe voltage	NV	$V_{CE} = -10$ V, $I_C = -1$ mA, $G_V = 80$ dB $R_g = 100$ kΩ, Function = FLAT		150		mV

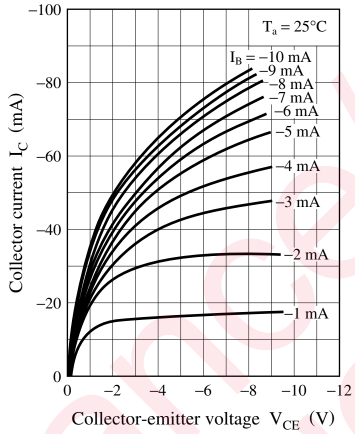
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

Rank	R	S	T
h_{FE}	130 to 220	185 to 330	260 to 450

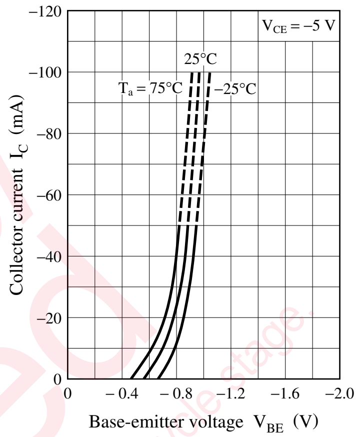
P_C — T_a



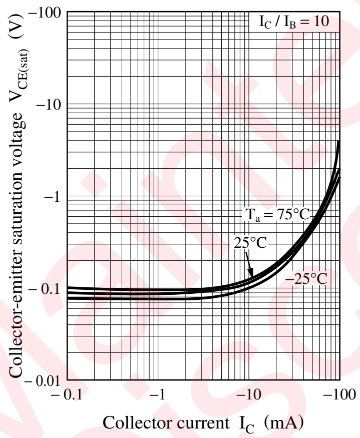
I_C — V_{CE}



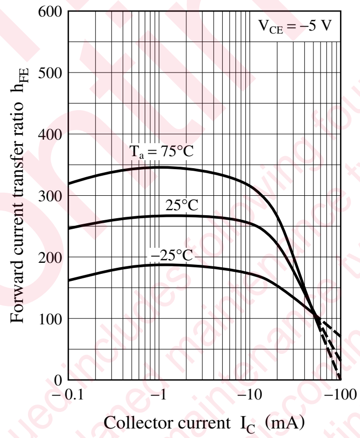
I_C — V_{BE}



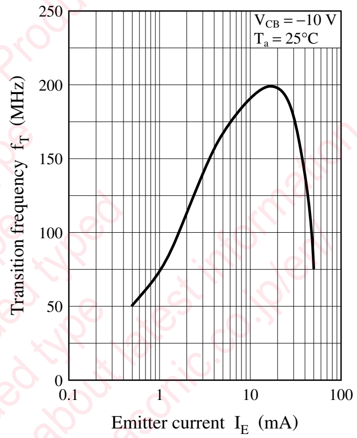
$V_{CE(sat)}$ — I_C



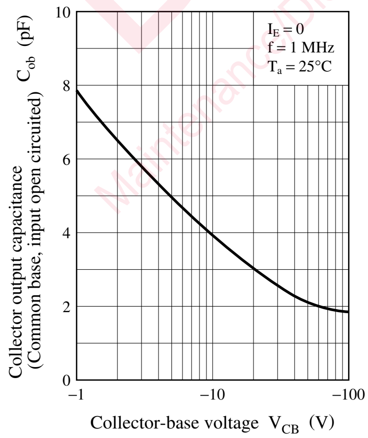
h_{FE} — I_C



f_T — I_E

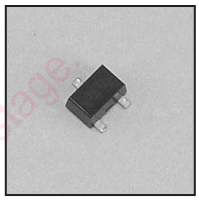


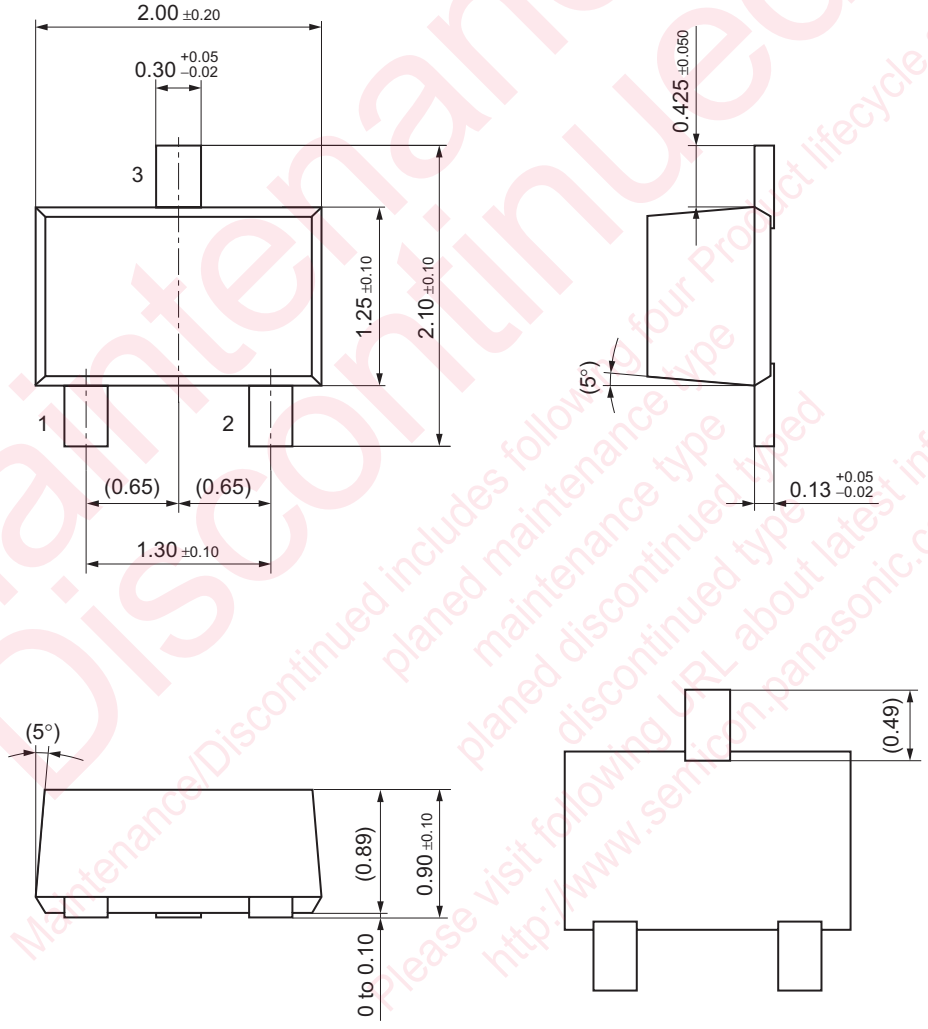
C_{ob} — V_{CB}



SMini3-F2

Unit: mm





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(6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.