2SC4691G

Silicon NPN epitaxial planar type

For high-speed switching

■ Features

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

■ Package

- Code
  SSMini3-F3
- Marking Symbol: 2Y
- 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}	40	V
Collector-emitter voltage (E-B short)	V_{CES}	40	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	100	mA
Peak collector current	I_{CP}	300	mA
Collector power dissipation	P_C	125	mW
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	−55 to +125	°C

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

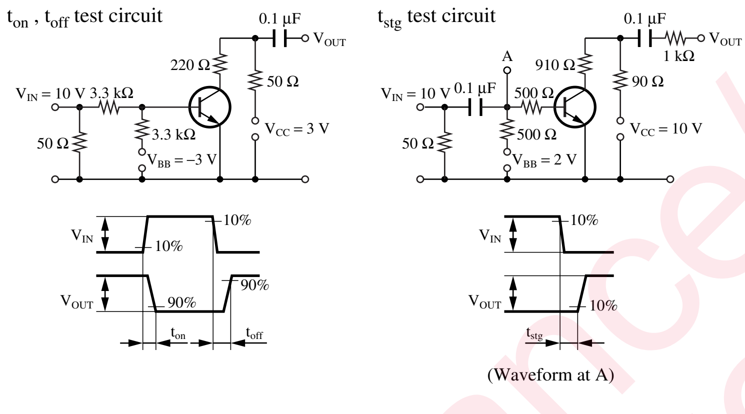
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 40$ V, $I_E = 0$			0.1	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 4$ V, $I_C = 0$			0.1	μA
Forward current transfer ratio *	h_{FE}	$V_{CE} = 1$ V, $I_C = 10$ mA	60		200	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10$ mA, $I_B = 1$ mA		0.17	0.25	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10$ mA, $I_B = 1$ mA			1.0	V
Transition frequency	f_T	$V_{CB} = 10$ V, $I_E = -10$ mA, f = 200 MHz		450		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10$ V, $I_E = 0$, f = 1 MHz		2	6	pF
Turn-on time	t_{on}	Refer to the measurement circuit		17		ns
Turn-off time	t_{off}			17		ns
Storage time	t_{stg}			10		ns

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

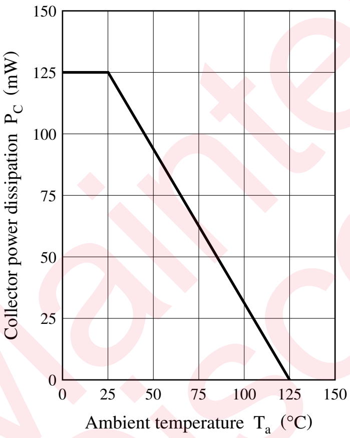
Rank	Q	R	No-rank
h_{FE}	60 to 120	90 to 200	60 to 200

Product of no-rank is not classified and have no indication for rank.

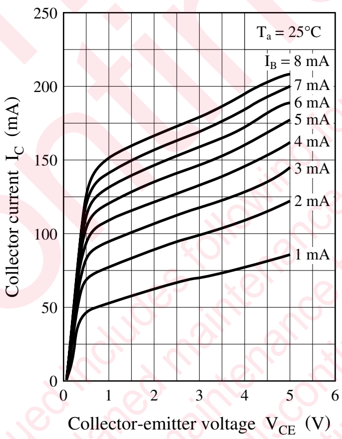
Measurement circuit



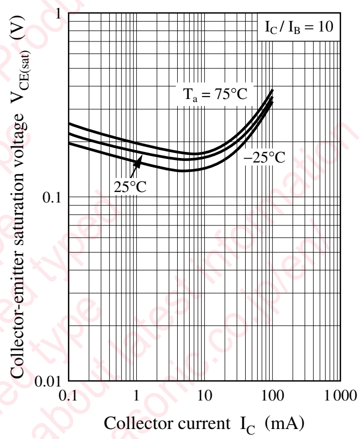
P_C — T_a



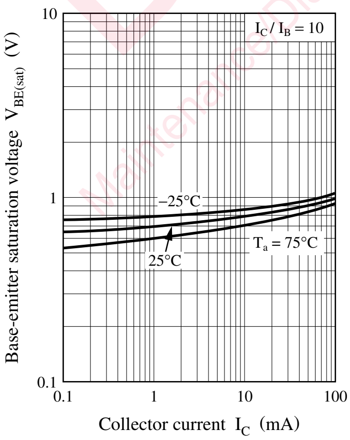
I_C — V_{CE}



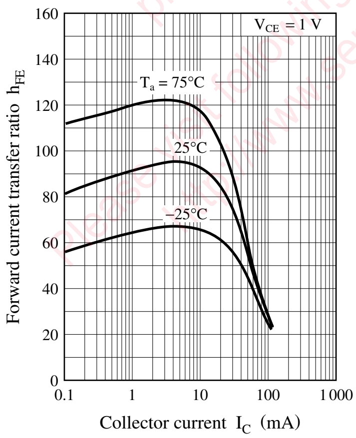
$V_{CE(sat)}$ — I_C



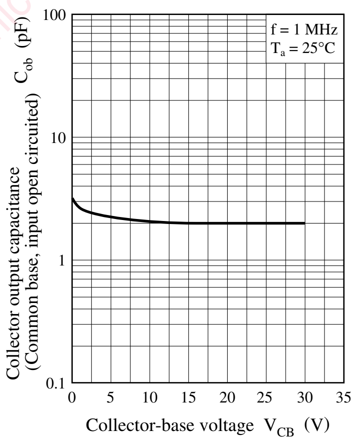
$V_{BE(sat)}$ — I_C



h_{FE} — I_C

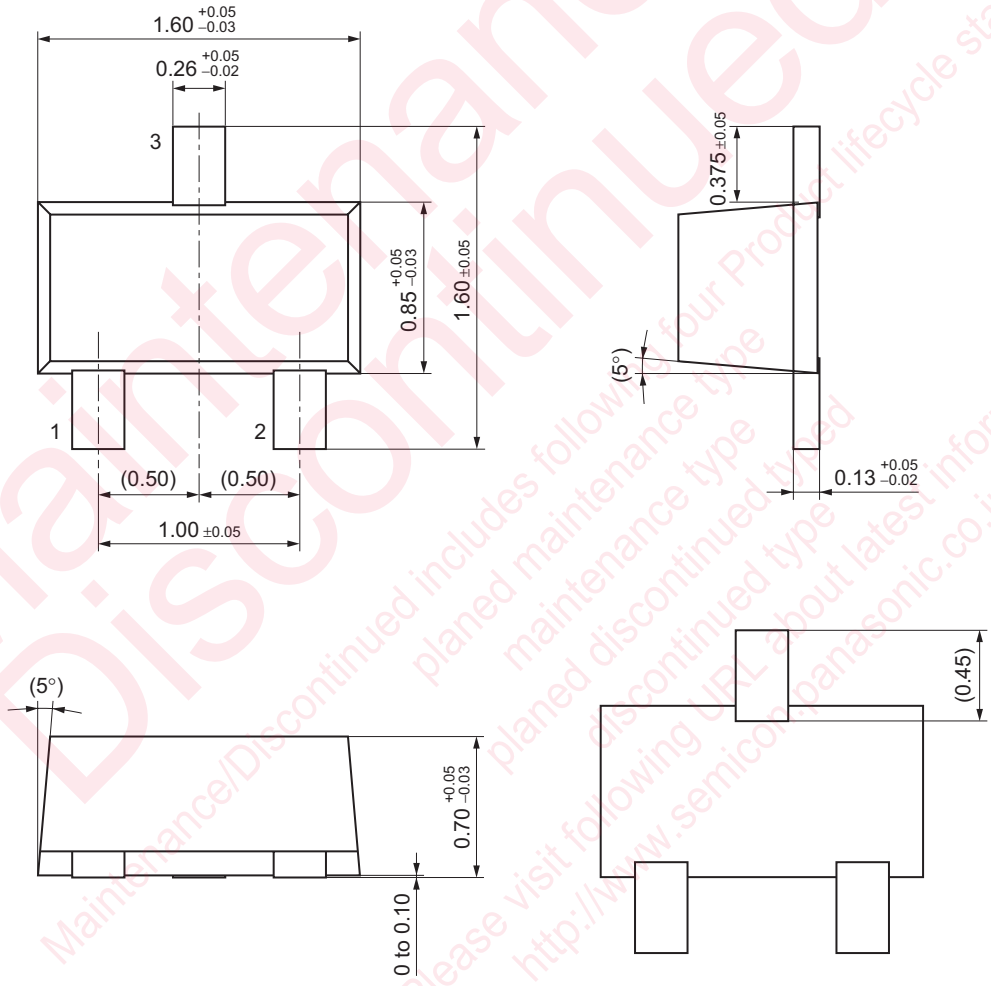


C_{ob} — V_{CB}



SSMini3-F3

Unit: mm



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