2SC3938G

Silicon NPN epitaxial planar type

For high-speed switching

■ Features

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

■ 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}	150	mW	
Junction temperature	T_{j}	150	°C	
Storage temperature	T _{stg}	-55 to +150	°C	

Package

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

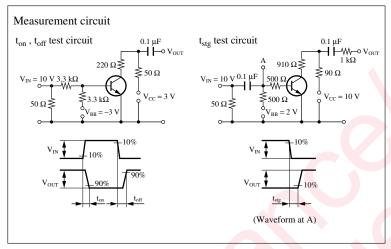
■ Electrical Characteristics $T_a = 25$ °C ± 3 °C

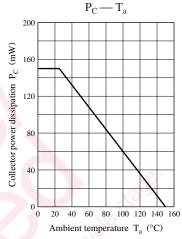
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base cutoff current (Emitter open)	I _{CBO}	$V_{CB} = 40 \text{ V}, I_{E} = 0$			0.1	μΑ
Emitter-base cutoff current (Collector open)	I _{EBO}	$V_{EB} = 4 \text{ V}, I_{C} = 0$	10	5	0.1	μΑ
Forward current transfer ratio *	h _{FE}	$V_{CE} = 1 \text{ V}, I_{C} = 10 \text{ mA}$	60		200	_
Collector-emitter saturation voltage	V _{CE(sat)}	$I_{\rm C} = 10 \text{ mA}, I_{\rm B} = 1 \text{ mA}$	1.90	0.17	0.25	V
Base-emitter saturation voltage	V _{BE(sat)}	$I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$			1	V
Transition frequency	f_T	$V_{CB} = 10 \text{ V}, I_{E} = -10 \text{ mA}, f = 200 \text{ MHz}$		450		MHz
Collector output capacitance (Common base, input open circuited)	C _{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		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

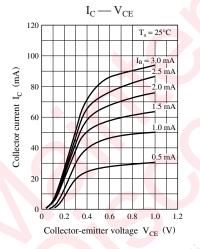
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

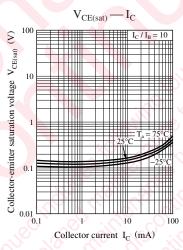
2. *: Rank classification

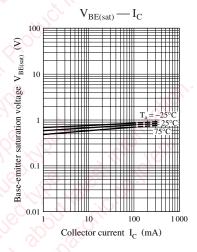
Rank	Q	R
h_{FE}	60 to 120	90 to 200

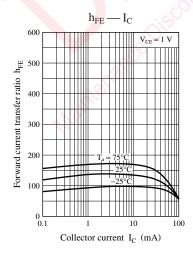


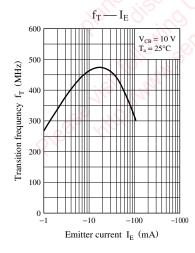


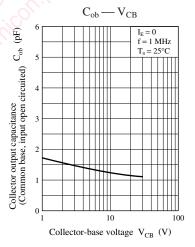




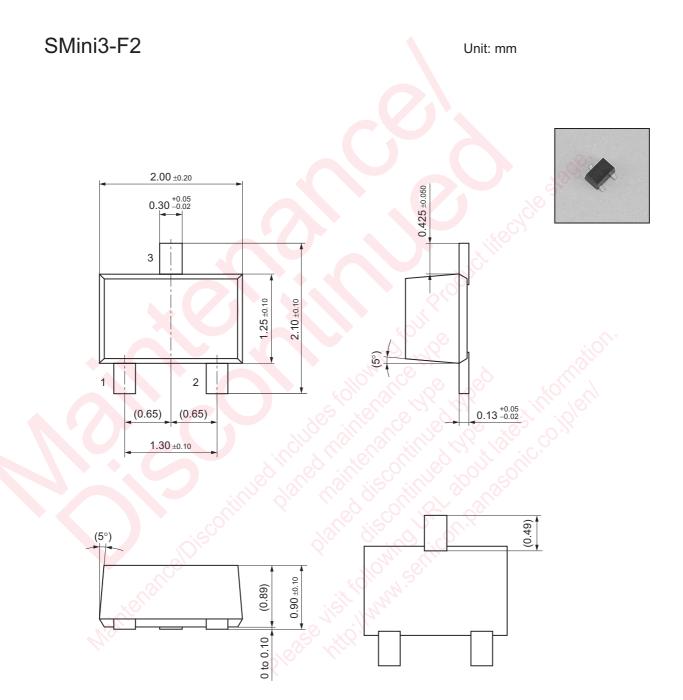








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