

2SD1328

Silicon NPN epitaxial planar type

For low-voltage output amplification

For muting

For DC-DC converter

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Low ON resistance R_{on}
- High forward current transfer ratio h_{FE}

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	25	V
Collector-emitter voltage (Base open)	V_{CEO}	20	V
Emitter-base voltage (Collector open)	V_{EBO}	12	V
Collector current	I_C	0.5	A
Peak collector current	I_{CP}	1	A
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10 \mu\text{A}$, $I_E = 0$	25			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1 \text{ mA}$, $I_B = 0$	20			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10 \mu\text{A}$, $I_C = 0$	12			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 25 \text{ V}$, $I_E = 0$			100	nA
Forward current transfer ratio *1,2	h_{FE}	$V_{CE} = 2 \text{ V}$, $I_C = 0.5 \text{ A}$	200		800	—
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 0.5 \text{ A}$, $I_B = 20 \text{ mA}$		0.13	0.40	V
Base-emitter saturation voltage *1	$V_{BE(sat)}$	$I_C = 0.5 \text{ A}$, $I_B = 50 \text{ mA}$			1.2	V
Transition frequency	f_T	$V_{CB} = 10 \text{ V}$, $I_E = -50 \text{ mA}$, $f = 200 \text{ MHz}$		200		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$		10		pF
ON resistance *3	R_{on}			1.0		Ω

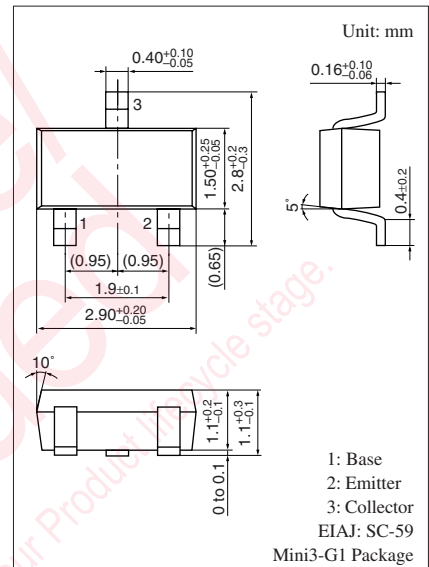
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *1: Pulse measurement

*2: Rank classification

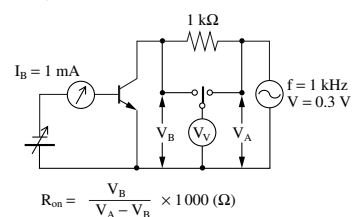
Rank	R	S	T	No-rank
h_{FE}	200 to 350	300 to 500	400 to 800	200 to 800
Marking symbol	1DR	1DS	1DT	1D

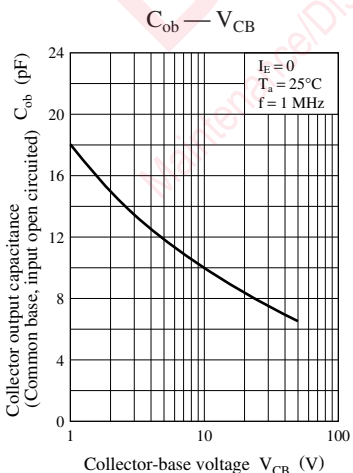
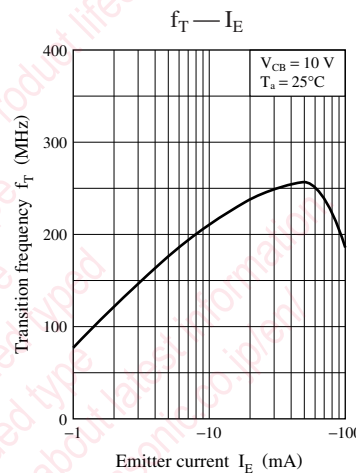
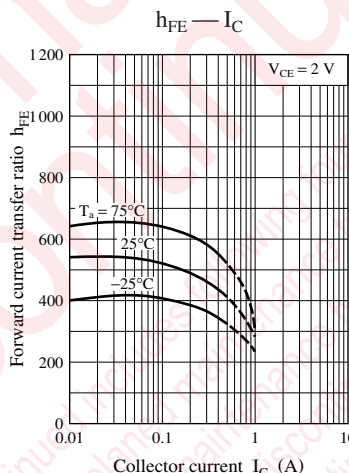
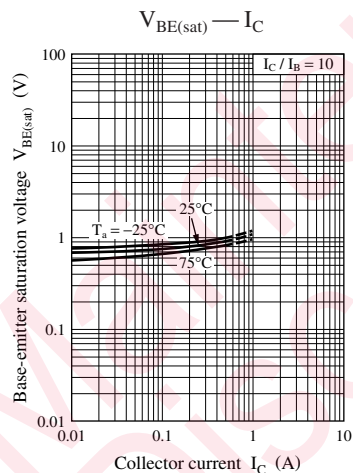
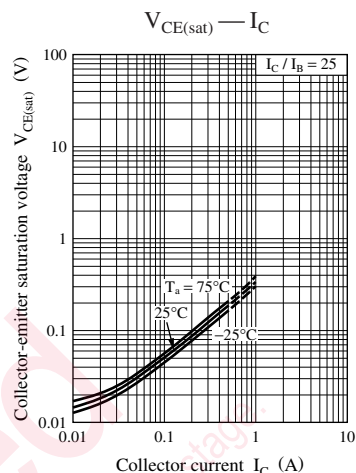
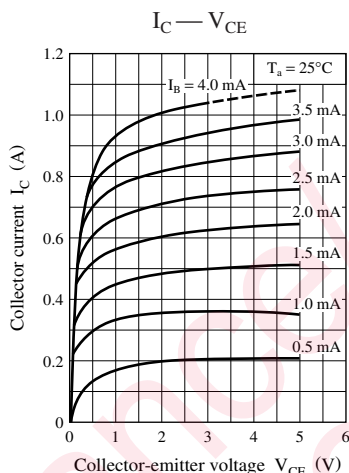
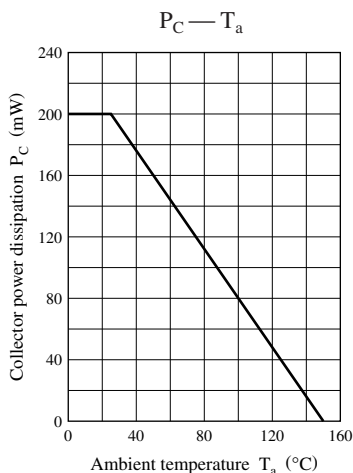
Product of no-rank is not classified and have no marking symbol for rank.



Marking Symbol: 1D

*3: R_{on} Measurement circuit





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ly to show the main characteristics and application circuit examples
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standard applications or general electronic equipment (such as office
and household appliances).

ng applications:

biles, traffic control equipment, combustion equipment, life support
reliability are required, or if the failure or malfunction of the prod-

ck are subject to change without notice for modification and/or im-
use of the products, therefore, ask for the most up-to-date Product
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bsolute maximum rating and the guaranteed operating conditions
(.). Especially, please be careful not to exceed the range of absolute
er-off and mode-switching. Otherwise, we will not be liable for any



take into the consideration of incidence of break down and failure
n the systems such as redundant design, arresting the spread of fire
al injury, fire, social damages, for example, by using the products.

own and characteristics change due to external factors (ESD, EOS,
mounting or at customer's process. When using products for which
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