

Transistors

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	°C
Storage temperature	T_{stg}	-55 to +150	°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}	$I_C = 10 \mu A, I_E = 0$	25			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1 mA, I_B = 0$	20			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10 \mu A, I_C = 0$	12			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 25 V, I_E = 0$			100	nA
Forward current transfer ratio ^{*1,2}	h_{FE}	$V_{CE} = 2 V, I_C = 0.5 A$	200		800	—
Collector-emitter saturation voltage ^{*1}	$V_{CE(sat)}$	$I_C = 0.5 A, I_B = 20 mA$		0.13	0.40	V
Base-emitter saturation voltage ^{*1}	$V_{CE(sat)}$	$I_C = 0.5 A, I_B = 50 mA$			1.2	V
Transition frequency	f_T	$V_{CB} = 10 V, I_E = -50 mA, f = 200 MHz$	200			MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10 V, I_E = 0, f = 1 MHz$		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.

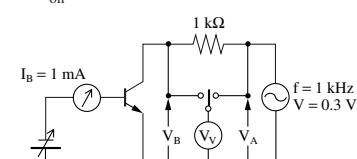
2. *1: Pulse measurement

*2: Rank classification

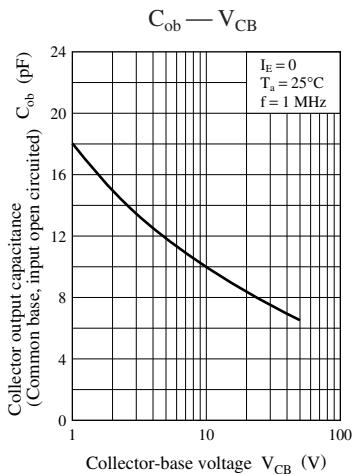
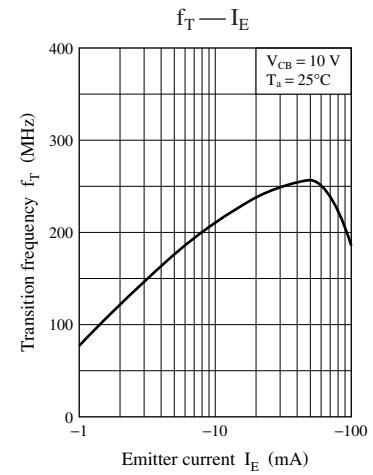
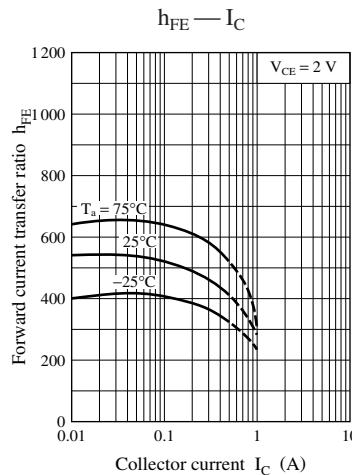
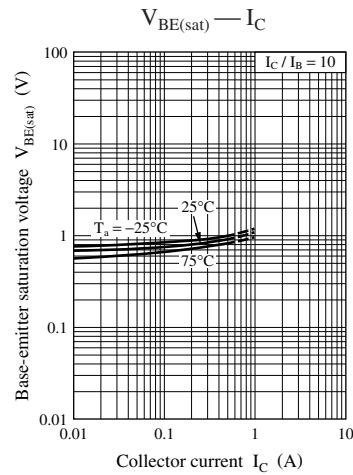
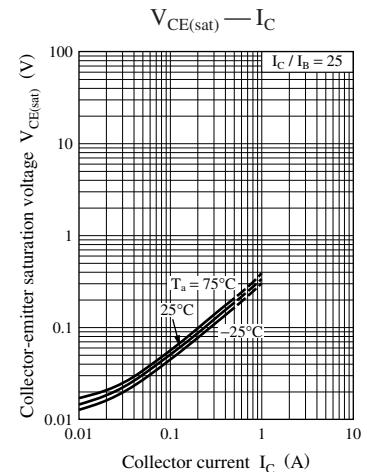
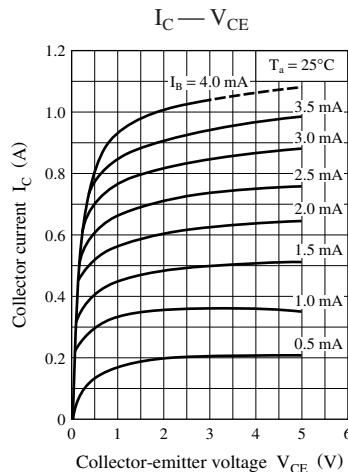
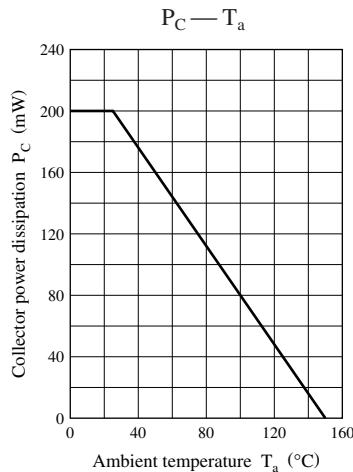
Rank	R	S	T	No-rank
h_{FE}	200 to 350	300 to 500	400 to 800	200 to 800
Marking symbol	1DR	1DS	1DT	1D

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

*3: R_{on} Measurement circuit



$$R_{on} = \frac{V_B}{V_A - V_B} \times 1000 \text{ } (\Omega)$$



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