2SD1119

Silicon NPN epitaxial planar type

For low-frequency power amplification

■ Features

- Low collector-emitter saturation voltage V_{CE(sat)}
- Satisfactory operation performances at high efficiency with the low-voltage power supply.
- Mini power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

■ Absolute Maximum Ratings $T_a = 25$ °C

Parameter	Symbol	Rating	Unit	
Collector-base voltage (Emitter open)	V _{CBO}	40	V	
Collector-emitter voltage (Base open)	V _{CEO}	25	V	
Emitter-base voltage (Collector open)	V _{EBO} 7		V	
Collector current	I_C	3	A	
Peak collector current	I_{CP}	5	A	
Collector power dissipation *	P _C	1	W	
Junction temperature	T_{j}	150	°C	
Storage temperature	T _{stg}	-55 to +150	°C	

Note) *: Printed circuit board: Copper foil area of 1 cm² or more, and the board thickness of 1.7 mm for the collector portion

Unit: mm 4.5±0.1 1.6±0.2 0.4±0.08 1.5±0.1 1

Marking Symbol: T

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

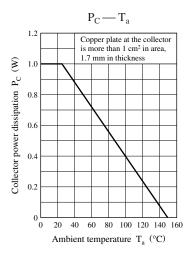
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-emitter voltage (Base open)	V _{CEO}	$I_C = 1 \text{ mA}, I_B = 0$	25			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10 \ \mu A, \ I_C = 0$	7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 10 \text{ V}, I_E = 0$			0.1	μΑ
Forward current transfer ratio *1	h _{FE1} *2	$V_{CE} = 2 \text{ V}, I_{C} = 0.5 \text{ A}$	230		600	_
	h _{FE2}	$V_{CE} = 2 \text{ V}, I_{C} = 2 \text{ A}$	150			
Collector-emitter saturation voltage *1	V _{CE(sat)}	$I_C = 3 A, I_B = 0.1 A$			1	V
Transition frequency	f_T	$V_{CB} = 6 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		150		MHz
Collector output capacitance	C _{ob}	$V_{CB} = 20 \text{ V}, I_{E} = 0, f = 1 \text{ MHz}$			50	pF
(Common base, input open circuited)						

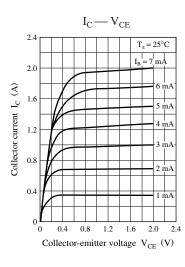
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

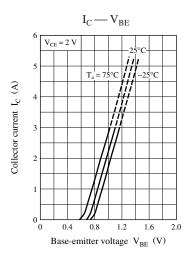
2. *1: Pulse measurement

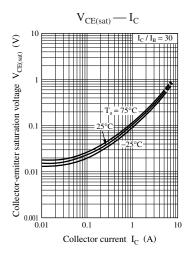
*2: Rank classification

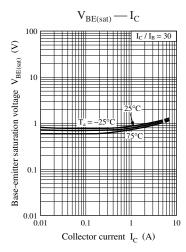
Rank	Q	R
h_{FE1}	230 to 380	340 to 600

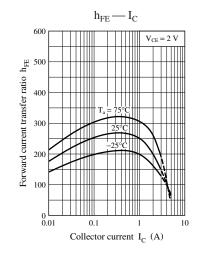


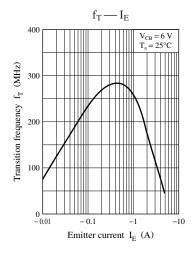


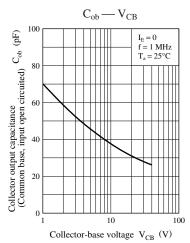












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