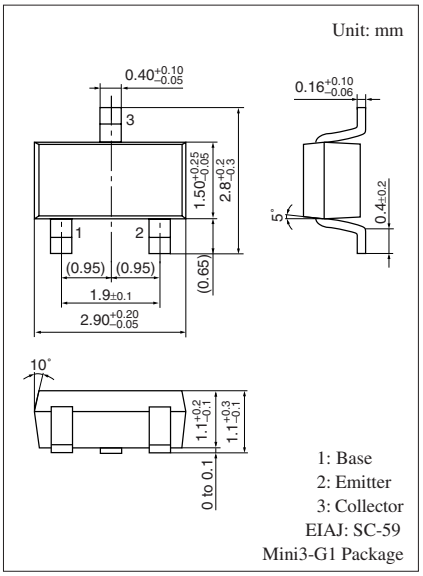
2SD0814A (2SD814A)

Silicon NPN epitaxial planar type

For high breakdown voltage low-frequency and low-noise amplification



Marking Symbol: L

■ Features

- High collector-emitter voltage (Base open) V_{CEO}
- Low noise voltage NV
- Mini 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}	185	V
Collector-emitter voltage (Base open)	V_{CEO}	185	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	50	mA
Peak collector current	I_{CP}	100	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	I_C = 100 µA, I_B = 0	185			V
Emitter-base voltage (Collector open)	V_{EBO}	I_E = 10 µA, I_C = 0	5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = 100 V, I_E = 0			1	µA
Forward current transfer ratio *	h_{FE}	V_{CE} = 5 V, I_C = 10 mA	90		330	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 30 mA, I_B = 3 mA			1	V
Transition frequency	f_T	V_{CB} = 10 V, I_E = −10 mA, f = 200 MHz		150		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz		2.3		pF
Noise voltage	NV	V_{CE} = 10 V, I_C = 1 mA, G_V = 80 dB R_g = 100 kΩ, Function = FLAT		150		mV

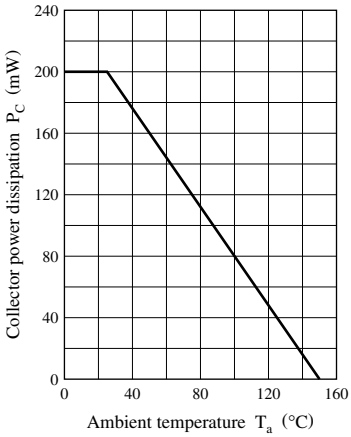
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

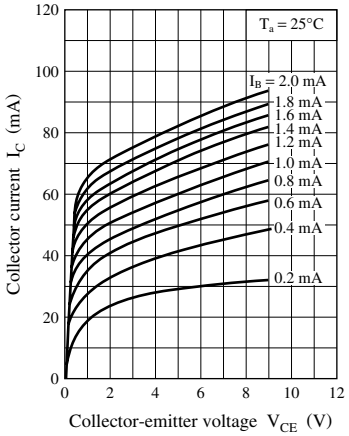
Rank	Q	R	S
h_{FE}	90 to 155	130 to 220	185 to 330

Note) The part number in the parenthesis shows conventional part number.

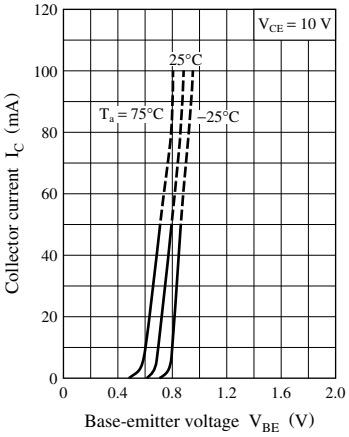
P_C — T_a



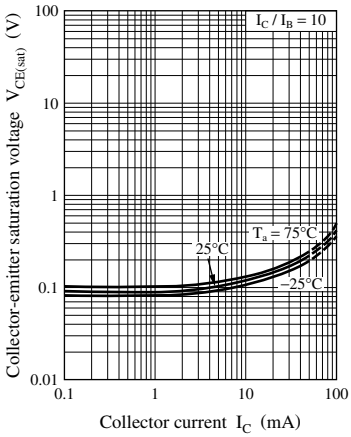
I_C — V_{CE}



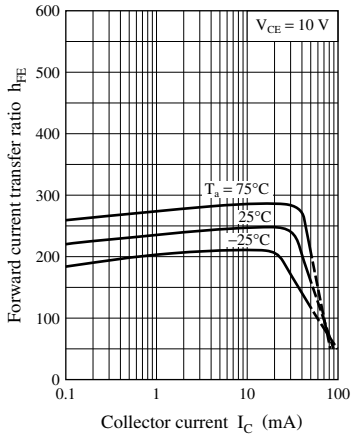
I_C — V_{BE}



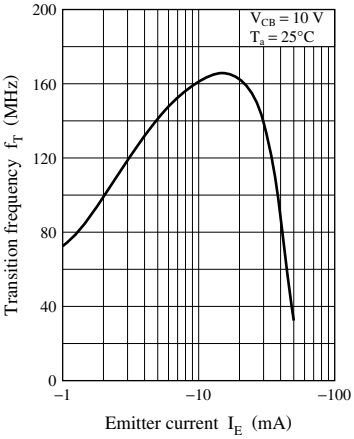
$V_{CE(sat)}$ — I_C



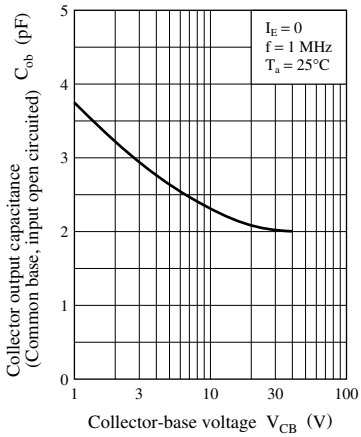
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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