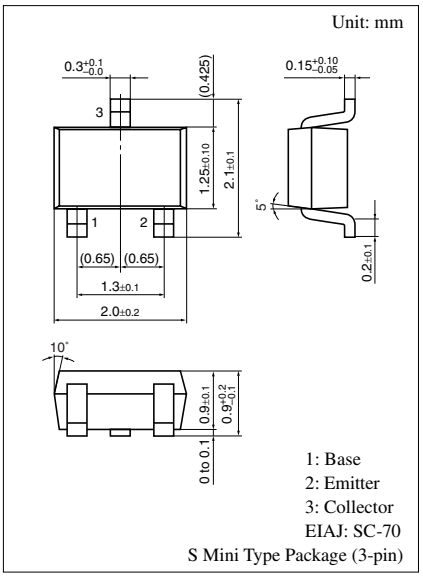
2SA2009

Silicon PNP epitaxial planer type

For low-frequency high breakdown voltage amplification



Marking Symbol: AR

■ Features

- High collector to emitter voltage V_{CEO}
- Low noise voltage NV

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	−120	V
Collector to emitter voltage	V_{CEO}	−120	V
Emitter to base voltage	V_{EBO}	−5	V
Peak collector current	I_{CP}	−50	mA
Collector current	I_C	−20	mA
Collector power dissipation	P_C	150	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 cutoff current	I_{CBO}	$V_{CB} = -50$ V, $I_E = 0$			−100	nA
	I_{CEO}	$V_{CE} = -50$ V, $I_B = 0$			−1	µA
Collector to base voltage	V_{CBO}	$I_C = -10$ µA, $I_E = 0$	−120			V
Collector to emitter voltage	V_{CEO}	$I_C = -1$ mA, $I_B = 0$	−120			V
Emitter to base voltage	V_{EBO}	$I_E = -10$ µA, $I_C = 0$	−5			V
Forward current transfer ratio *	h_{FE}	$V_{CE} = -5$ V, $I_C = -2$ mA	180		700	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -20$ mA, $I_B = -2$ mA			− 0.6	V
Noise voltage	NV	$V_{CE} = -40$ V, $I_C = -1$ mA, $G_V = 80$ dB $R_g = 100$ kW, Function = FLAT		130		mV
Transition frequency	f_T	$V_{CB} = -5$ V, $I_E = 2$ mA, f = 200 MHz		120		MHz

Note) *: Rank classification

Rank	R	S	T
h_{FE}	180 to 360	260 to 520	360 to 700