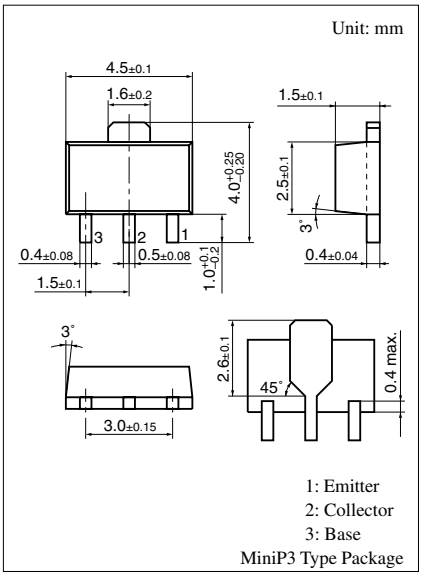
2SB1678

Silicon PNP epitaxial planer type

For low-frequency amplification



Marking Symbol: 2K

■ Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Large Peak collector current I_{CP}
- Mini power type package, allowing downsizing and thinning of the equipment and automatic insertion through the tape packing

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	−30	V
Collector to emitter voltage	V_{CEO}	−20	V
Emitter to base voltage	V_{EBO}	−7	V
Peak collector current	I_{CP}	−5	A
Collector current	I_C	−3	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 for collector portion
area: 1.0 Cm^2 or more, thickness: 1.7 mm
Absolute maximum rating P_C Without heat sink shall be 0.5 W

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -10$ V, $I_E = 0$			−100	nA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5$ V, $I_C = 0$			−100	nA
Collector to emitter voltage	V_{CEO}	$I_C = -1$ mA, $I_B = 0$	−20			V
Emitter to base voltage	V_{EBO}	$I_E = -10$ µA, $I_C = 0$	−7			V
Forward current transfer ratio *1, 2	h_{FE}	$V_{CE} = -2$ V, $I_C = 200$ mA	90		625	
Collector to emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = -3$ A, $I_B = -0.1$ A			−1	V
Collector output capacitance	C_{ob}	$V_{CB} = -20$ V, $I_E = 0$, f = 1 MHz			85	pF
Transition frequency	f_T	$V_{CB} = -6$ V, $I_E = 50$ mA, f = 200 MHz		120		MHz

Note) *1: Pulse measurement
*2: Rank classification

Rank	P	Q	R
h_{FE}	90 to 135	120 to 205	180 to 625

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