

# 2SD1992A

Silicon NPN epitaxial planer type

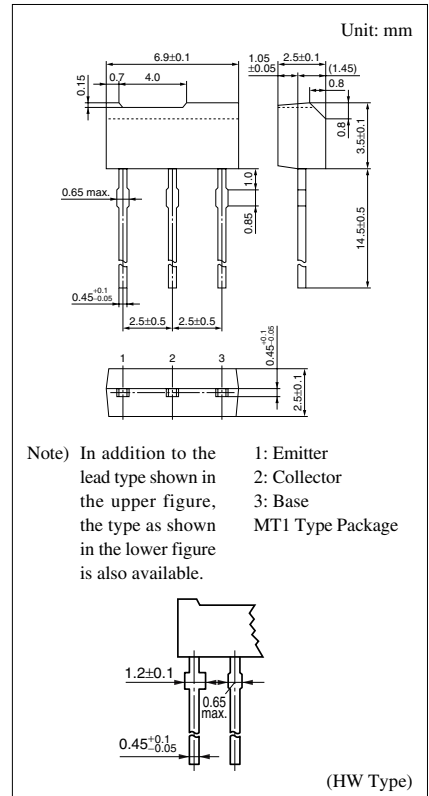
For general amplification  
Complementary to 2SB1321A

**■ Features**

- Low collector to emitter saturation voltage  $V_{CE(sat)}$
- Allowing supply with the radial taping

**■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$**

Parameter	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	60	V
Collector to emitter voltage	$V_{CEO}$	50	V
Emitter to base voltage	$V_{EBO}$	7	V
Peak collector current	$I_{CP}$	1	A
Collector current	$I_C$	500	mA
Collector power dissipation	$P_C$	600	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



**■ Electrical Characteristics  $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$**

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 20\text{ V}, I_E = 0$			0.1	$\mu\text{A}$
	$I_{CEO}$	$V_{CE} = 20\text{ V}, I_B = 0$			1	$\mu\text{A}$
Collector to base voltage	$V_{CBO}$	$I_C = 10\ \mu\text{A}, I_E = 0$	60			V
Collector to emitter voltage	$V_{CEO}$	$I_C = 2\text{ mA}, I_B = 0$	50			V
Emitter to base voltage	$V_{EBO}$	$I_E = 10\ \mu\text{A}, I_C = 0$	7			V
Forward current transfer ratio	$h_{FE1}^{*2}$	$V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$	85		340	
	$h_{FE2}^{*1}$	$V_{CE} = 10\text{ V}, I_C = 500\text{ mA}$	40	90		
Collector to emitter saturation voltage <sup>*1</sup>	$V_{CE(sat)}$	$I_C = 300\text{ mA}, I_B = 30\text{ mA}$		0.35	0.6	V
Transition frequency	$f_T$	$V_{CB} = 10\text{ V}, I_E = -10\text{ mA}, f = 200\text{ MHz}$		200		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		6	15	pF

Note) \*1: Pulse measurement

\*2: Rank classification

Rank	Q	R	S	No-rank
$h_{FE1}$	85 to 170	120 to 240	170 to 340	85 to 340

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

