

# 2SD1820, 2SD1820A

Silicon NPN epitaxial planer type

For general amplification

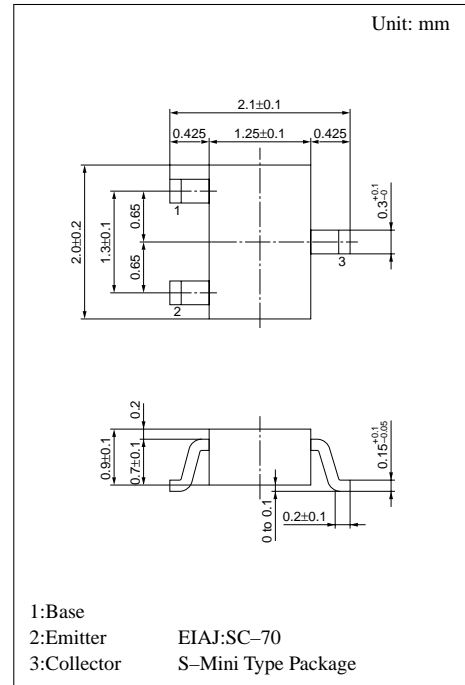
Complementary to 2SB1219 and 2SB1219A

### ■ Features

- Low collector to emitter saturation voltage  $V_{CE(sat)}$ .
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

### ■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit	
Collector to base voltage	$V_{CBO}$	2SD1820	30	V
		2SD1820A	60	
Collector to emitter voltage	$V_{CEO}$	2SD1820	25	V
		2SD1820A	50	
Emitter to base voltage	$V_{EBO}$	5	V	
Peak collector current	$I_{CP}$	1	A	
Collector current	$I_C$	500	mA	
Collector power dissipation	$P_C$	150	mW	
Junction temperature	$T_j$	150	°C	
Storage temperature	$T_{stg}$	-55 ~ +150	°C	



Marking symbol : W(2SD1820)  
X(2SD1820A)

### ■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 20V, I_E = 0$			0.1	$\mu A$
Collector to base voltage	$V_{CBO}$	$I_C = 10\mu A, I_E = 0$	2SD1820	30		V
			2SD1820A	60		
Collector to emitter voltage	$V_{CEO}$	$I_C = 2mA, I_B = 0$	2SD1820	25		V
			2SD1820A	50		
Emitter to base voltage	$V_{EBO}$	$I_E = 10\mu A, I_C = 0$	5			V
Forward current transfer ratio	$h_{FE1}^{*1}$	$V_{CE} = 10V, I_C = 150mA^{*2}$	85	160	340	
	$h_{FE2}$	$V_{CE} = 10V, I_C = 500mA^{*2}$	40			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 300mA, I_B = 30mA^{*2}$		0.35	0.6	V
Transition frequency	$f_T$	$V_{CB} = 10V, I_E = -50mA^{*2}, f = 200MHz$		200		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$		6	15	pF

\*2 Pulse measurement

\*1  $h_{FE1}$  Rank classification

Rank	Q	R	S	
$h_{FE1}$	85 ~ 170	120 ~ 240	170 ~ 340	
Marking	2SD1820	WQ	WR	WS
Symbol	2SD1820A	XQ	XR	XS

