High-virtual Amplifier Transistor (−210V, −30mA)

2SA821S

●**Features**

1) High breakdown voltage. (V_{CER}=−210V)
2) Complements the 2SC1651S.

●**Absolute maximum ratings (Ta=25℃)**

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CBO}	−210	V	
Collector-emitter voltage	V_{CER}	−210	V	*
Emitter-base voltage	V_{EBO}	−5	V	
Collector current	I_C	−30	mA	
Collector power dissipation	P_C	250	mW	
Junction temperature	Tj	150	℃	
Storage temperature	Tstg	−55~+150	℃	

* R_{BE}=10kΩ

●**Packaging specifications and h_{FE}**

Type	2SA821
Package	SPT
h_{FE}	PQ
Code	TP
Basic ordering unit (pieces)	5000

●**Electrical characteristics (Ta=25℃)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−210	—	—	V	I_C=−50μA
Collector-emitter breakdown voltage	BV_{CER}	−210	—	—	V	I_C=−100μA , R_{BE}=10kΩ
Emitter-base breakdown voltage	BV_{EBO}	−5	—	—	V	I_E=−50μA
Collector cutoff current	I_{CBO}	—	—	−1	μA	V_{CB}=−150V
Emitter cutoff current	I_{EBO}	—	—	−1	μA	V_{EB}=−4.5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	−1	V	I_C/I_B=−2mA/−0.2mA
DC current transfer ratio	h_{FE}	56	—	270	—	V_{CE}=−3V , I_C=−5mA
Transition frequency	f_T	—	50	—	MHz	V_{CE}=−5V , I_E=2mA , f=30MHz
Output capacitance	Cob	—	8	—	pF	V_{CB}=−10V , I_E=0A , f=1MHz

(94L-183-A35)

High-voltage Amplifier Transistor (210V, 30mA)

2SC1651S

●**Features**

1) High breakdown voltage. (V_{CER}=210V)
2) Complements the 2SA821S.

●**Absolute maximum ratings (Ta=25℃)**

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CBO}	210	V	
Collector-emitter voltage	V_{CER}	210	V	*
Emitter-base voltage	V_{EBO}	5	V	
Collector current	I_C	30	mA	
Collector power dissipation	P_C	250	mW	
Junction temperature	Tj	150	℃	
Storage temperature	Tstg	−55~+150	℃	

* R_{BE}=10KΩ

●**Packaging specifications and h_{FE}**

Type	2SC1651S
Package	SPT
h_{FE}	PQ
Code	TP
Basic ordering unit (pieces)	5000

●**Electrical characteristics (Ta=25℃)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	210	—	—	V	I_C=50μA
Collector-emitter breakdown voltage	BV_{CER}	210	—	—	V	I_C=100μA , R_{BE}=10kΩ
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	I_E=50μA
Collector cutoff current	I_{CBO}	—	—	1	μA	V_{CB}=150V
Emitter cutoff current	I_{EBO}	—	—	1	μA	V_{EB}=4.5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	1	V	I_C/I_B=2mA/0.2mA , f=30MHz
DC current transfer ratio	h_{FE}	82	—	270	—	V_{CE}=3V, I_C=5mA
Transition frequency	f_T	—	60	—	MHz	V_{CE}=5V , I_E=−2mA
Output capacitance	Cob	—	6	—	pF	V_{CB}=10V , I_E=0A , f=1MHz

(94L-519-C35)