

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

2SA821S

●Features

- 1) High breakdown voltage, ($V_{CE} = -210V$)
- 2) Complements the 2SC1651S.

●Packaging specifications and hFE

Type	2SA821
Package	SPT
hFE	PQ
Code	TP
Basic ordering unit (pieces)	5000

●Absolute maximum ratings ($T_a = 25^\circ C$)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	—210	V
Collector-emitter voltage	V_{CEr}	—210	V *
Emitter-base voltage	V_{EB0}	—5	V
Collector current	I_C	—30	mA
Collector power dissipation	P_C	250	mW
Junction temperature	T_J	150	$^\circ C$
Storage temperature	T_{stg}	—55~+150	$^\circ C$

* $R_{BE} = 10k\Omega$

●Electrical characteristics ($T_a = 25^\circ C$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CB0}	—210	—	—	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	BV_{CEr}	—210	—	—	V	$I_C = -100\mu A$, $R_{BE} = 10k\Omega$
Emitter-base breakdown voltage	BV_{EB0}	—5	—	—	V	$I_E = -50\mu A$
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	$I_C/I_E = -2mA/-0.2mA$
DC current transfer ratio	hFE	56	—	270	—	$V_{CE} = -3V$, $I_C = -5mA$
Transition frequency	f _t	—	50	—	MHz	$V_{CE} = -5V$, $I_E = 2mA$, $f = 30MHz$
Output capacitance	C _{ob}	—	8	—	pF	$V_{CB} = -10V$, $I_E = 0A$, $f = 1MHz$

(94L-183-A35)

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●Electrical characteristics ($T_a = 25^\circ C$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CB0}	210	—	—	V	$I_C = 50\mu A$
Collector-emitter breakdown voltage	BV_{CEr}	210	—	—	V	$I_C = 100\mu A$, $R_{BE} = 10k\Omega$
Emitter-base breakdown voltage	BV_{EB0}	5	—	—	V	$I_E = 50\mu A$
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	$I_C/I_E = 2mA/0.2mA$, $f = 30MHz$
DC current transfer ratio	hFE	82	—	270	—	$V_{CE} = 3V$, $I_C = 5mA$
Transition frequency	f _t	—	60	—	MHz	$V_{CE} = 5V$, $I_E = -2mA$
Output capacitance	C _{ob}	—	6	—	pF	$V_{CB} = 10V$, $I_E = 0A$, $f = 1MHz$

(94L-519-C35)