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

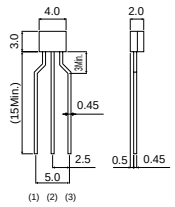
2SA821S

●Features

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

●External dimensions (Unit : mm)

SPT



(1)Emitter
(2)Collector
(3)Base

Taping specifications

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CBO}	–210	V	
Collector-emitter voltage	V_{CES}	–210	V	*
Emitter-base voltage	V_{EBO}	–5	V	
Collector current	I_C	–30	A	
Collector power dissipation	P_C	250	W	
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	–55 to +150	°C	

* R_{BE}=10kΩ

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–210	–	–	V	I_C= –50μA
Collector-emitter breakdown voltage	BV_{CEO}	–210	–	–	V	I_C= –100μA, R_{BE}=10kΩ
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	I_E= –50μA
Collector cutoff current	I_{CBO}	–	–	–	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}	82	–	–1	–	V_{CE}= –3V, I_C= –5A
Transition frequency	f_T	–	50	270	MHz	V_{CE}= –5V , I_E=2mA , f=30MHz
Output capacitance	Cob	–	8	–	pF	V_{CE}= –10V , I_E=0A , f=1MHz

●Packaging specifications and h_{FE}

Type	2SA821S
Package	SPT
h_{FE}	PQ
Code	TP
Basic ordering unit (pieces)	5000

●Electrical characteristics curves

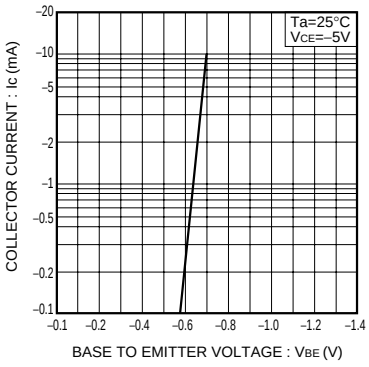


Fig.1 Ground emitter propagation characteristics

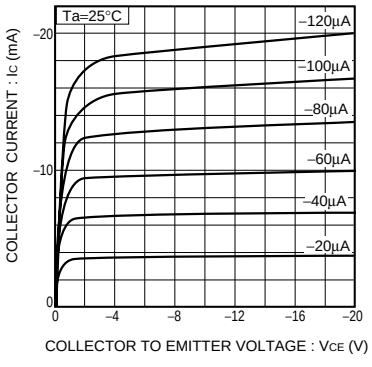


Fig.2 Ground emitter output characteristics (I)

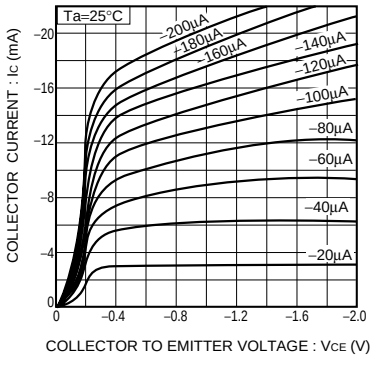


Fig.3 Ground emitter output characteristics (II)

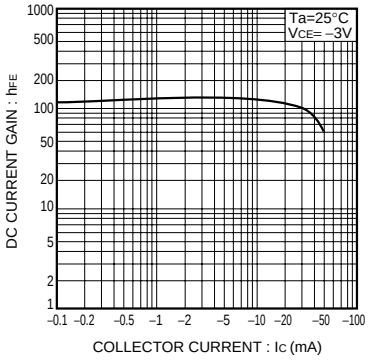


Fig.4 DC current gain vs. collector current

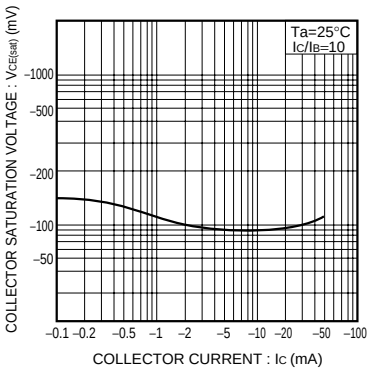


Fig.5 Collector-emitter saturation voltage vs. collector current

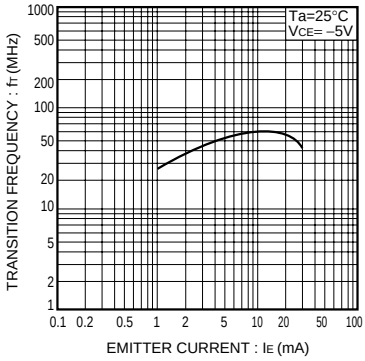


Fig.6 Gain bandwidth product vs. emitter current

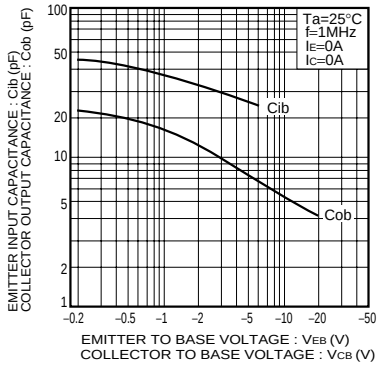


Fig.7 Emitter input capacitance vs. emitter-base voltage
Collector output capacitance vs. collector-base voltage

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