

General purpose small signal amplifier (50V, 0.15A)

2SC4617EB

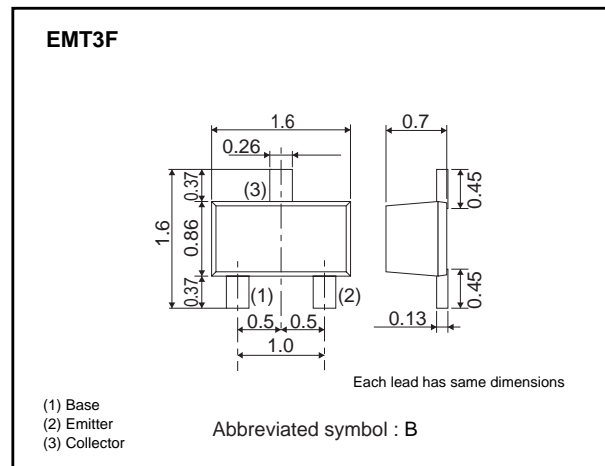
●Features

- 1) Excellent hFE linearity.
- 2) Complements the 2SA1774EB.

●Structure

NPN silicon epitaxial
planar transistor

●Dimensions (Unit : mm)



●Absolute maximum (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	60	V
Collector-emitter voltage	V _{CE0}	50	V
Emitter-base voltage	V _{EB0}	7	V
Collector current	I _C	150	mA
	I _{CP} *1	200	
Power dissipation	P _D *2	150	mW
Junction temperature	T _J	150	°C
Range of storage temperature	T _{stg}	-55 to +150	°C

*1 P_w=1ms Single pulse

*2 Each terminal mounted on a recommended land

Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CEO}	50	-	-	V	$I_c=1mA$
Collector-base breakdown voltage	BV_{CBO}	60	-	-	V	$I_c=50\mu A$
Emitter-base breakdown voltage	BV_{EBO}	7	-	-	V	$I_E=50\mu A$
Collector cutoff current	I_{CBO}	-	-	100	nA	$V_{CB}=60V$
Emitter cutoff current	I_{EBO}	-	-	100	nA	$V_{EB}=7V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	400	mV	$I_c/I_b=50mA/5mA$
DC current gain	h_{FE}	82	-	560	-	$V_{CE}=6V, I_c=1mA$
Transition frequency	f_T	-	180	-	MHz	$V_{CE}=12V, I_E=-2mA, f=100MHz$
Output capacitance	C_{ob}	-	2	3.5	pF	$V_{CE}=12V, I_E=0A, f=1MHz$

h_{FE} rank categories

Rank	P	Q	R	S
h_{FE}	82 to 180	120 to 270	180 to 390	270 to 560

●Electrical characteristic curves

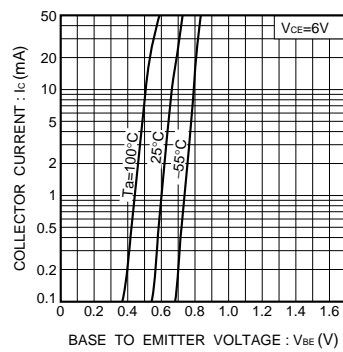


Fig.1 Grounded emitter propagation characteristics

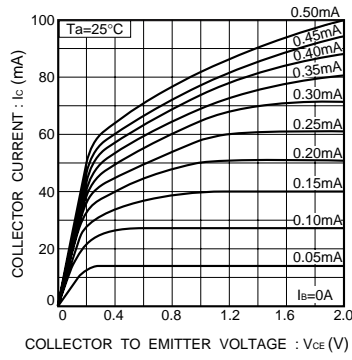


Fig.2 Grounded emitter output characteristics (I)

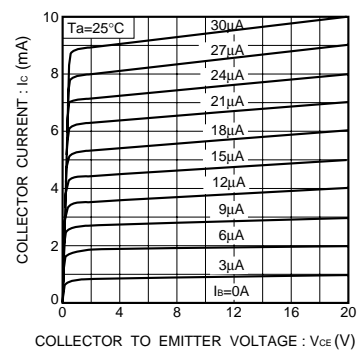


Fig.3 Grounded emitter output characteristics (II)

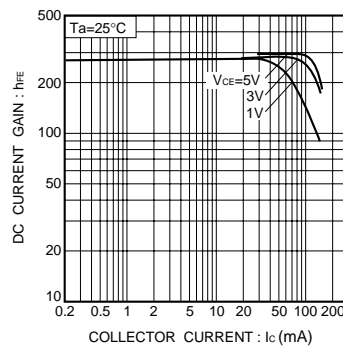


Fig.4 DC current gain vs. collector current (I)

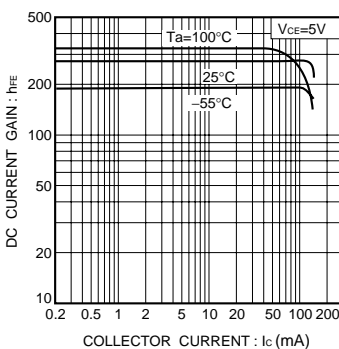


Fig.5 DC current gain vs. collector current (II)

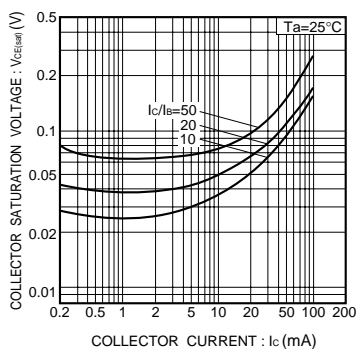


Fig.6 Collector-emitter saturation voltage vs. collector current

Transistors

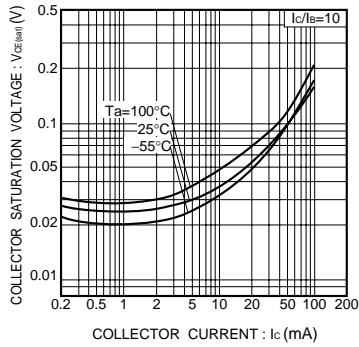


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

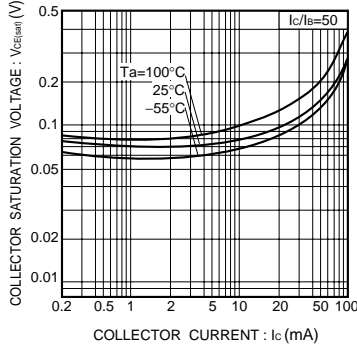


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

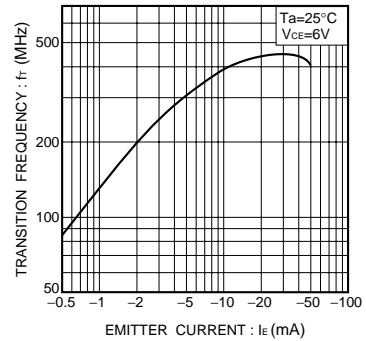


Fig.9 Gain bandwidth product vs. emitter current

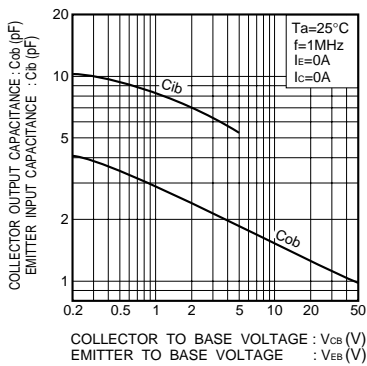


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

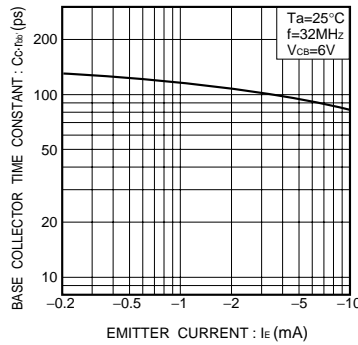


Fig.11 Base-collector time constant vs. emitter current

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