General purpose amplification(–12V, –2A) **2SB1690K**

Applications

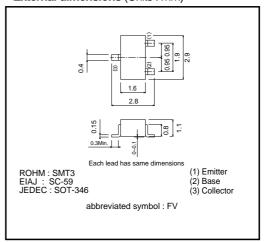
Low frequency amplifier Deiver

● Features

- 1) A collector current is large.
- 2) Collector saturation voltage is low.

 $V_{\text{CE(sat)}} \leq -180 \text{mV}$ at Ic= -1A / I_B= -50 mA

●External dimensions (Units : mm)



● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	Vсво	-15	V
Collector-emitter voltage	Vceo	-12	V
Emitter-base voltage	VEBO	-6	V
Collector current	I-	-2	А
Collector current	lc lc	-4	A*
Collector power dissipation	Pc	200	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

^{*} Single pulse Pw=1ms

Packaging specifications

	Package	Taping
Type	Code	T146
	Basic ordering unit (pieces)	3000

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	-15	-	-	V	Ic= -10μA
Collector-emitter breakdown viltage	BVceo	-12	-	-	V	Ic=-1mA
Emitter-base breakdown voltage	ВVево	-6	-	-	V	I _E = -10μA
Collector cutoff current	Ісво	-	-	-100	nA	V _{CB} = -15V
Emitter cutoff current	ІЕВО	-	-	-100	nA	VEB= -6V
Collerctor-emitter saturation voltage	VCE(sat)	-	-120	-180	mV	Ic= -1A, IB= -50mA
DC current transfer ratio	hfe	270	-	680	-	Vce= -2V, Ic= -200mA*
Transition frequency	f⊤	-	360	-	MHz	Vc=-2V, I=-200mA, f=100MHz*
Output capacitance	Cob	-	15	-	pF	Vcb= -10V, Ie=0mA, f=1MHz

^{*} Pulsed

•Electrical characteristic curves

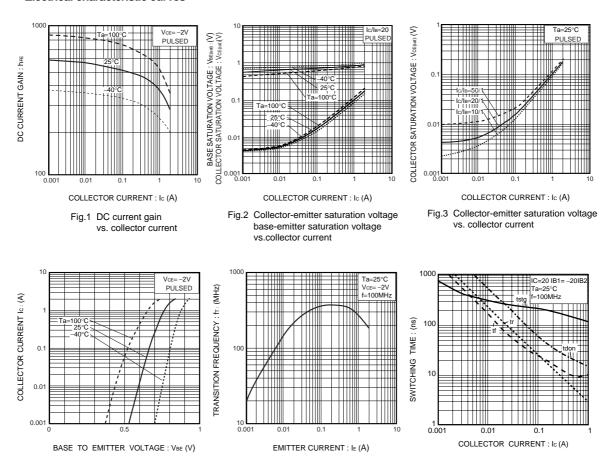


Fig.5 Gain bandwidth product

vs. emitter current

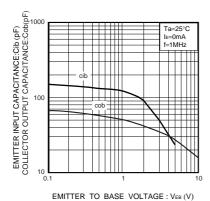


Fig.4 Grounded emitter propagation

characteristics

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

vs. emitter-base voltage

Fig.6 Switching time

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