General purpose amplification(–12V, –2A) 2SB1690

Applications

Low frequency amplifier Deiver

● Features

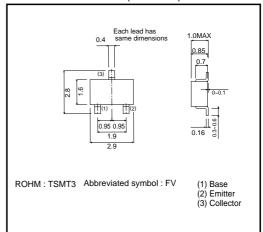
- 1) A collector current is large.
- 2) Collector saturation voltage is low.

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

Packaging specifications

Туре	Package	Taping
	Code	TL
	Basic ordering unit (pieces)	3000
2SB1690		0

●External dimensions (Unit : 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	Vево	-6	V
Collector current	lc	-2	Α
Collector current	Іср	-4	A*
Collector power dissipation	Pc	500	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

^{*} Single pulse Pw=1ms

●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==-10μA
Collector cutoff current	Ісво	-	-	-100	nA	Vcb=-15V
Emitter cutoff current	Ієво	-	-	-100	nA	V _{EB} =-6V
Collerctor-emitter saturation voltage	VCE(sat)	-	-120	-180	mV	Ic=-1mA, 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

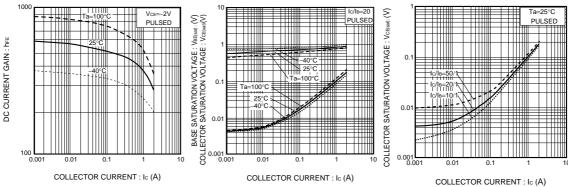
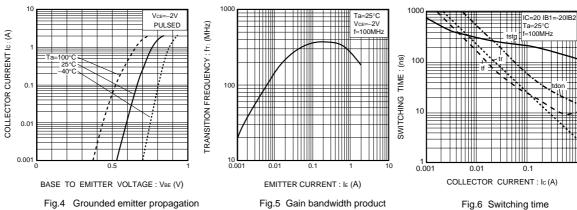


Fig.1 DC current gain vs. collector current

Fig.2 Collector-emitter saturation voltage base-emitter saturation voltage vs.collector current

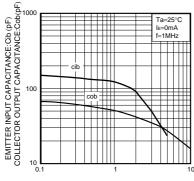
Fig.3 Collector-emitter saturation voltage vs. collector current



characteristics

vs. emitter current

Fig.6 Switching time



EMITTER TO BASE VOLTAGE: VEB (V)

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

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