Genera purpose amplification(-12V, -1.5A) 2SB1689

Application

Low frequency amplifier Driver

● Features

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

 $V_{CE(sat)} \le -200 mV$ at $I_C = -500 mA / I_B = -25 mA$

• External dimensions (Unit : mm)

ROHM: UMT3 Abbreviated symbol: EV EIAJ: SC-70 JEDEC: SOT-323

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

●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	Ic	-1.5	Α		
Collector current	Іср	-3	A*1		
Power dissipation	Pc	200	mW ^{*2}		
Junction temperature	Tj	150	°C		
Range of storage temperature	Tstg	-55 to +150	°C		

^{*1} Single pulse, Pw=1ms

Packaging specifications

	Package	Taping
Type	Code	T106
	Basic ordering unit (pieces)	3000
2SB1689		0

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	-15	_	_	V	Ic=-10μA
Collector-emitter breakdown voltage	BVceo	-12	_	_	V	Ic=-1mA
Emitter-base breakdown voltage	ВУево	-6	_	_	V	Iε= −10μA
Collector cutoff current	Ісво	-	_	-100	nA	VcB= -15V
Emitter cutoff current	ІЕВО	-	_	-100	nA	V _{EB} = -6V
Collector-emitter saturation voltage	VCE(sat)	-	-110	-200	mV	Ic= -500mA, I _B = -25mA
DC current gain	hfe	270	_	680	-	Vce= -2V, Ic= -200mA*
Transition frequency	f⊤	-	400	_	MHz	Vc=-2V, I=200mA, f=100MHz*
Corrector output capacitance	Cob	_	12	_	pF	Vcb= -10V, Ie=0A, f=1MHz

* Pulsed

^{*2} Each terminal mounted on a recommended land pattern

•Electrical characteristic curves

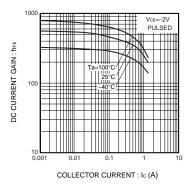


Fig.1 DC current gain vs. collector current

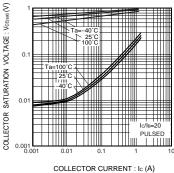
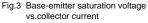
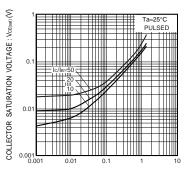


Fig.2 Collector-emitter saturation voltage vs.collector current





COLLECTOR CURRENT : Ic (A)

Fig.4 Collector-emitter saturation voltage vs. collector current

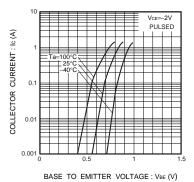


Fig.5 Grounded emitter propagation characteristics

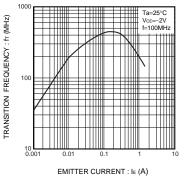


Fig.6 Gain bandwidth product vs. emitter current

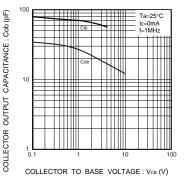


Fig.7 Collector output capacitance vs. collector-base voltage Emitter input capacitance vs.emitter-base voltage

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