Low frequency amplifier (12V, 2A)

US6X5

Application

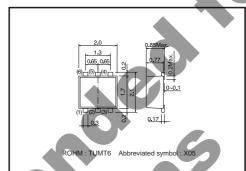
Low frequency amplifier Driver

● Features

1) A collector current is large.

2) V_{CE(sat)}: max. 370mV At $Ic=1.5A/I_B=75mA$

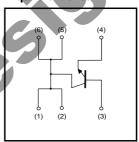
●Dimensions (Unit:mm)



● 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	Ic	2	Α
Collector current	Іср	4	A*1
Power dissipation	_Pc	400	mW*2
Power dissipation	FC	1.0	W *3
Junction temperature	Tj	150	°C
Range of storage temperature	Tstg	-55 to +150	°C

●Equivalent circuit



●Electrical characteristics (Ta=25

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)	_	90	180	mV	Ic=1A, I _B =50mA
DC current gain	hfe	270	_	680	_	Vce=2V, Ic=200mA*
Transition frequency	f⊤	_	360	_	MHz	Vce=2V, Ie=-200mA, f=100MHz*
Collector output capacitance	Cob	_	20	_	рF	Vcb=10V, Ie=0A, f=1MHz

^{*} Pulsed

^{*1} Single pulse, Pw=1ms
*2 Each Terminal Mounted on a Recommended
*3 Mounted on a 25mm×25mm×10.8mm ceramic substrate

Packaging specifications

	Package	Taping
Туре	Code	TR
	Basic ordering unit (pieces)	3000
US6X5		0

•Electrical characteristic curves

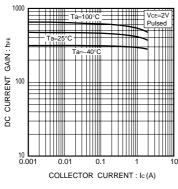


Fig.1 DC current gain vs. collector current

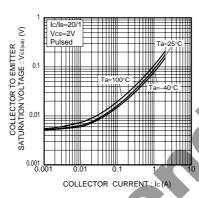


Fig.2 Base-emitter saturation voltage vs. collector current

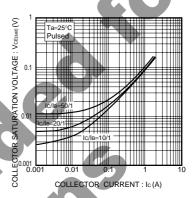


Fig.3 Collector-emitter saturation voltage vs. collector current

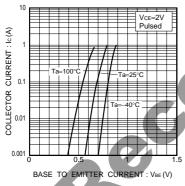


Fig.4 Grounded emitter propagation characteristics

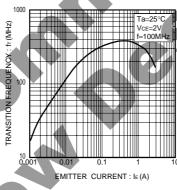


Fig.5 Gain bandwidth product vs. emitter current

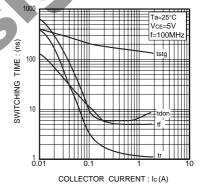


Fig.6 Switching time

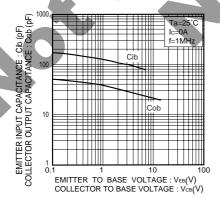


Fig.7 Collector output capacitance vs. collector-base voltage Emitter input capacitance vs. emitter-base voltage

Rev.C

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