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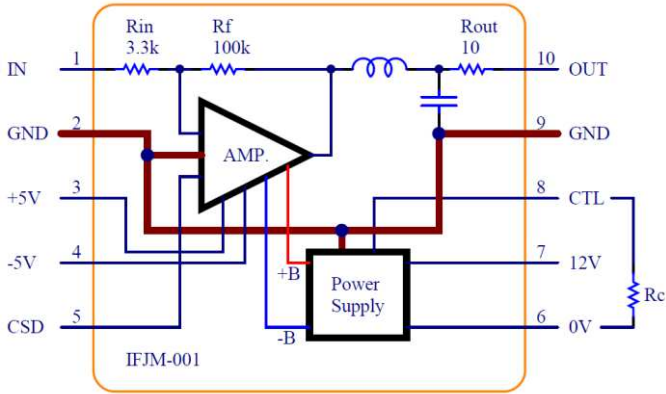
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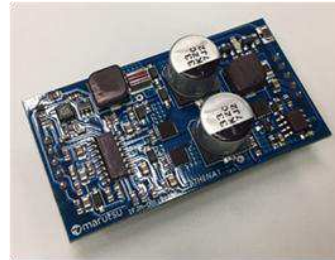
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IFJM-001 PWM Amplifier Module



IFJM - 001 is an amplifier module that linearly drives a piezo actuator with high efficiency. The maximum output is ± 60 V. The output stage bus voltage can be continuously varied in the range of ± 25 V to ± 60 V according to the assumed maximum output, so efficiency of amplifier can be optimized according to the actuator used.



Outline 10pins DIP module (Refer to dimension on Page2)
58mm(W) x 32mm(L) x 15mm(H) Not include connection pin

Function High voltage amplifier

Applications Driving piezo actuator or high impedance speaker
Output voltage 0V~ ± 60 V (Output power stage bus voltage ± 25 V~ ± 60 V)

Absolute maximum ratings

	MIN	MAX	UNIT
Supply Voltage 12V (Pin7-Pin6)	-0.3	13	V
Supply Voltage +5V (Pin3-Pin2)	-0.3	5.5	V
Supply Voltage -5V (Pin4-Pin2)	-5.5	0.3	V
Input Voltage VIN (Pin1-Pin2)	-5	5	V
Boost Voltage VB (+B to -B)	50	125	V
Operating temperature range (Ta)	-25	55	°C

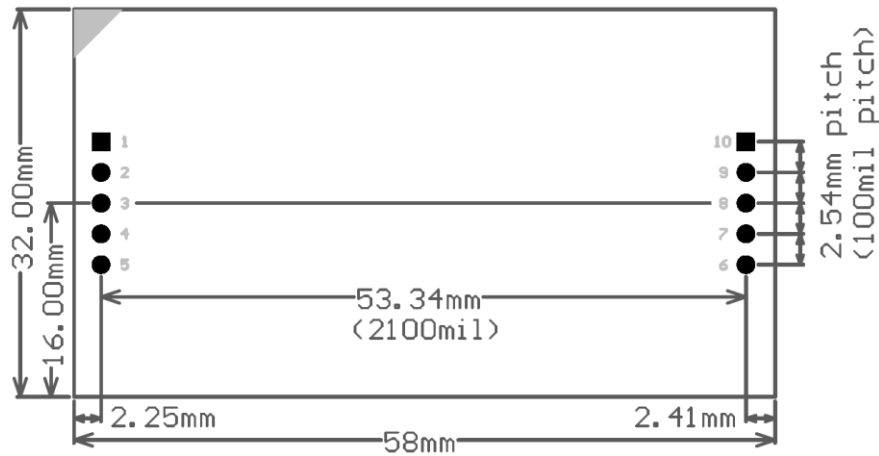
Functional Summary

Function	Purpose	Operation
Over tempature protection OTP	Protection of Module	When the temperature sensor on the board exceeds 75°C, the voltage of the CSD pin shifts from VAA level to GND level and oscillation stops. Oscillation restore at 65°C.
Reset CSD	External control of oscillation	Operating: VAA level, Heating protection: GND level, Abnormal: VSS level Forced oscillation stop: Fixed at VSS level or more and GND level or less.
Adjustable bus voltage CTL	Control of VB	Amplifier output stage bus voltage (VB) can be varied by resistor added between CTL and 0 V terminals. Lower bus voltage can improve reactive power and EMI.

Electrical characteristics

Ta=25°C Pin7-Pin6=12V Pin3-Pin2=+5V Pin4-Pin2=-5V fsw=150kHz

Symbol	Parameter	Conditions	MIN	TYP	MAX	UNIT
V _o	Maximum Output Voltage	CL=0.1uF VB=±25V to ±60V	±25		±60	V
I _{o max}	Maximum Output Current	RL=100Ω VB =±25V to ±60V		±250		mA
I _{o peak}	Maximum Output Current	RL=10Ω VB =±25V to ±60V			650	mA
THD	Total Harmonic Distortion	f=1kHz V _o =35Vrms VB=±60V			-80	dB
f _c	LPF Cutoff Frequency	VB=±25V to ±60V		23k		Hz
V _{on}	Residual Noise	BW=20kHz CL=0.1uF VB=±25V to ±60V			1	mV
V _{dc}	Output DC Voltage	VB=±25V to ±60V			±10	mV
OTC	Over Temperature Protection	VB=±25V to ±60V	70	75	80	°C
V _{pop}	Power ON/OFF Output Pop Noise	VB=±25V to ±60V			±5	Vpeak
I _{CC}	12V Quiescent Power Supply Current	VB=±60V		150	200	mA
I _{AA}	+5V Quiescent Power Supply Current	VB=±25V to ±60V		8	11	mA
I _{SS}	-5V Quiescent Power Supply Current	VB=±25V to ±60V		8	11	mA



Dimensions (Top View)

◆ Important Note ◆

● This product was not designed for use with devices which could cause personal injury in the event of failure or malfunction, including devices for use in areas including medical, military, aviation, aerospace, nuclear control, other types of safety mechanisms, etc., or for use in devices which require a high standard of safety. Do not use this product for such applications. This company assumes no liability for damages which may result from use of the product.

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