

SDV1061-600: 600W RMS, CLASS D, AUDIO AMPLIFIER EVALUATION BOARD

FEATURES

- **HIGH POWER: 600W RMS¹**
- **HIGH EFFICIENCY >90%**
- **HIGH SWITCHING FREQUENCY: 330KHz.**
- **LOW DISTORTION: c. 0.5% THD OPEN LOOP³**
- **SIMPLE POWER SUPPLY REQUIREMENT²**
- **FULL SHORT-CIRCUIT PROTECTION**
- **THERMAL PROTECTION**
- **START-UP, SHUTDOWN SYNCHRONISATION**
- **ONBOARD TEMPERATURE MONITOR**
- **FAN CIRCUITRY INCLUDED**
- **DRIVES 16Ω, 8Ω, 4Ω and 2Ω SPEAKERS⁵**
- **COMPACT**
- **LOW COST**
- **LIGHTWEIGHT**
- **ALTERNATIVE CONFIGURATIONS AVAILABLE⁴**
- **CUSTOM DESIGNS AVAILABLE**

NOTES

- 1) Other power options include 300W and 150W. Alternately, custom power levels can be produced.
- 2) Companion mains transformer to make complete power amplifier available
- 3) Assumes minimisation of external noise coupling and measured in audio band only.
- 4) Contact EcoTec Systems Ltd Ltd. for more details of these options
- 5) Requires modification to standard layout for 2Ω operation.

APPLICATIONS

- **AUDIO POWER AMPLIFIER**
- **ACTIVE SPEAKER SYSTEMS**
- **ACTIVE SONAR SYSTEMS**
- **NOISE CANCELLATION SYSTEMS**
- **MOTOR / MAGNET DRIVE MODULES**
- **POWER CONVERSION**
- **UPS - SINE WAVE INVERTER**



DESCRIPTION

The SDV1061-600 is a class D amplifier evaluation board, which contains the SDV1025-600 class D amplifier module. The board contains an input pre-amplifier, a sophisticated output filter; full short-circuit protection and turn-on/off synchronisation to prevent inadvertent outputs at start-up/shutdown. In addition, the unit contains a switching regulator to ensure the amplifier is always supplied with a stable voltage. This interface board is designed to give a simple, user friendly introduction to the SDV1025-600 class D amplifier module. Apart from the interface PCB only a suitable mains transformer is required to complete a single channel amplifier design. The interface PCB is shown above. Details of the various interface board functions are described below.

Please contact EcoTec Systems Ltd. for a confidential discussion of your requirements and further application information.

SPECIFICATIONS

Absolute maximum ratings



Rail voltage, V_{RS}	120 V
Operating free air temperature, T_A	-10°C to 40°C
Storage temperature range, T_{stg}	-40°C to 70°C

Stresses beyond those listed under absolute maximum ratings may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated "recommended operating conditions" is not implied.

Recommended operating conditions

	MIN	TYP	MAX	UNIT
RAIL VOLTAGE, V_{RS}	90	100	120	V
MODULATION FACTOR	0	0.95	1	
OPERATING FREE AIR TEMPERATURE, T_A	10		40	°C

Electrical characteristics at a free air temperature of 25°C

PARAMETER	NOTES/TEST CONDITIONS	VALUE			UNIT
		$V_{RS} = 85\text{ V}$			
		MIN	TYP	MAX	
R_{IN} AUDIO INPUT IMPEDANCE (Other input options available)		1			MΩ
I_{RS} POWER RAIL CURRENT	$R_L = 4\Omega$		12		Arms
P_{RR} ALLOWABLE POWER RAIL RIPPLE	SEPARATE POWER SUPPLY MODULE AVAILABLE		2		%
r_O OUTPUT RESISTANCE	$R_L = 4\Omega$			100	mΩ
SNR SIGNAL TO NOISE RATIO	$R_L = 4\Omega$ (in audio band)		-90		dB
f_{SW} SWITCHING FREQUENCY			330		KHz
t_{PD} PROPAGATION DELAY (POWER OUTPUT STAGE)	$R_L = 4\Omega$		100		ns

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