PRELIMINARY
Notice: This is not a final specification
Some parametric limits are subject to change

YS053DD-15

HYBRID IC FOR ON-BOARD POWER SUPPLY

DESCRIPTION

The YS053DD-15 is a thin-profile and lightweight dual-output DC-DC converter. Its output power is 3W and the input is insulated from the output. With an over-current protection circuit built-in, the YS053DD-15 is an optimum solution for onboard power supplies in FA, OA, and control equipment.

FEATURES

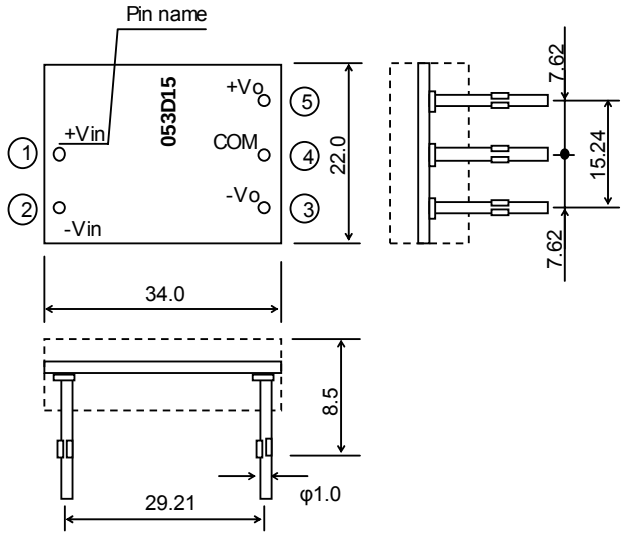
- •Input voltage range: 4.5 to 9V DC
- •Output: ±15V, 100mA (output power: 3W)
- •Thin-profile and lightweight design
- •Insulation between input and output: 500V DC, 1min
- •Built-in over-current protection circuit

APPLICATIONS

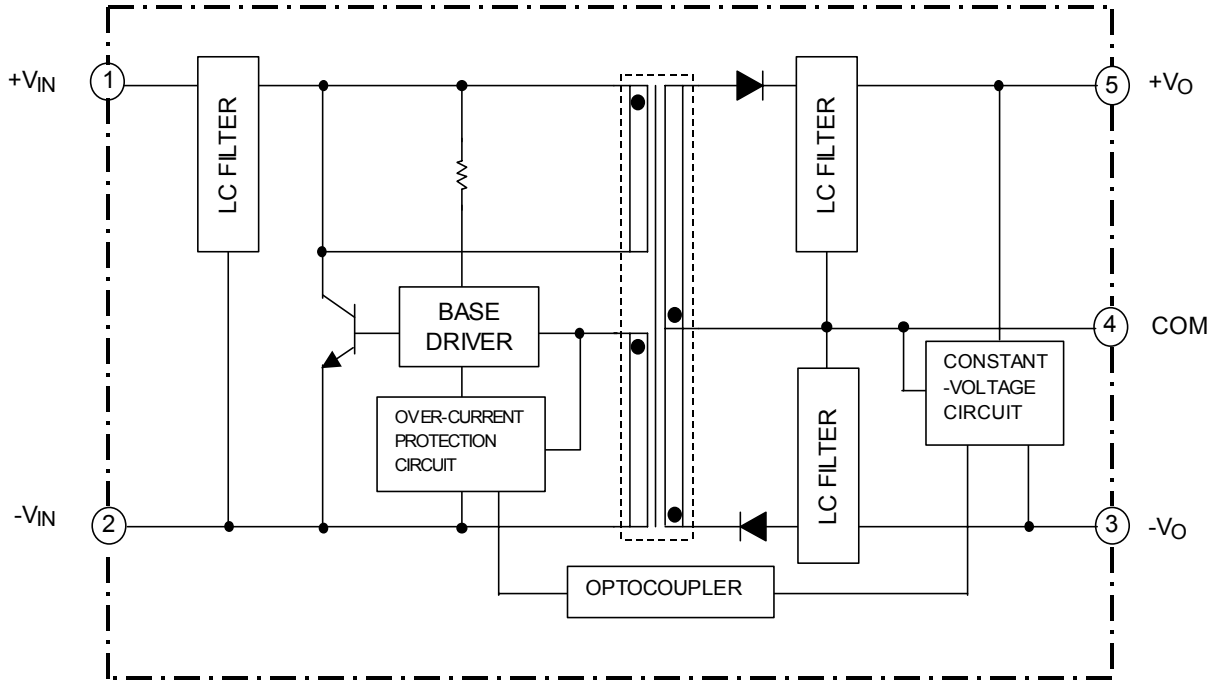
Best suited to onboard power supplies in FA, OA, and control equipment.

OUTLINE DRAWING

Dimensions: mm



BLOCK DIAGRAM



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MAXIMUM RATINGS (unless otherwise noted, Ta=25°C)

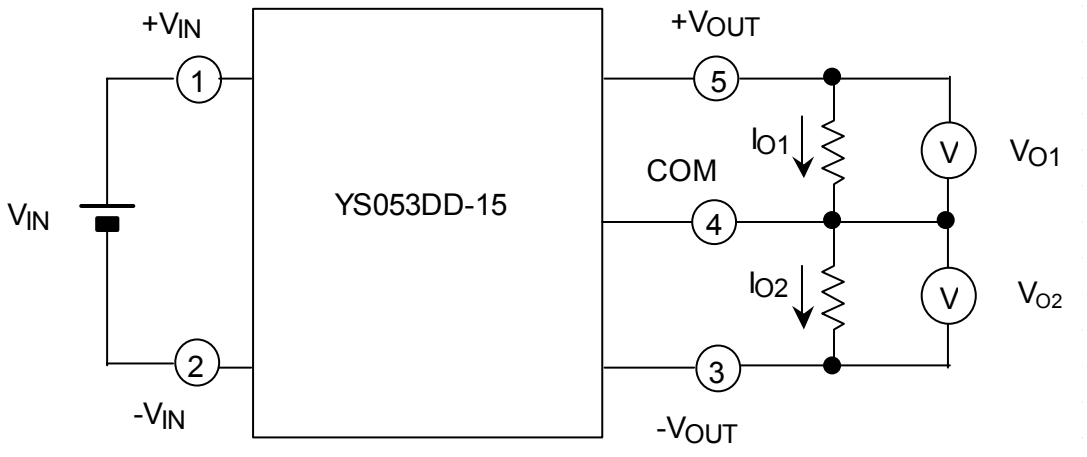
Symbol	Parameter	Conditions	Ratings	Unit
V_{IN}	Input voltage	Between: pins 2 and 1	9	V
I_{O1}	Output current	Between pins 5 and 4	100	mA
I_{O2}		Between pins 4 and 3	100	
P_O	Output power	—	3	W
Topr	Operating temperature	No condensation (*1)	-10 ~ +70	°C
Tstg	Storage temperature	No condensation	-20 ~ +85	°C
Viso	Input-output isolation voltage	DC, 1min	500	V

(*1) Please refer to derating curve.

ELECTRICAL CHARACTERISTICS (unless otherwise noted, V_{IN}=5V, Ta=25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			MIN.	TYP.	MAX.	
V_{IN}	Input voltage	Recommended range	4.5	5.0	9.0	V
V_{O1}	Output voltage	I_{O1}=0 ~ 100mA	14.25	15.0	15.75	V
V_{O2}		I_{O2}=0 ~ 100mA	-15.75	-15.0	-14.25	
Reg-I	Input regulation	I_{O1},I_{O2}=100mA, V_{IN}=4.5 ~ 9V	—	—	75	mV
Reg-$_L$	Load regulation	I_O=0 ~ 100mA	—	—	750	mV
V_{P-P}	Ripple voltage	I_{O1},I_{O2}=100mA	—	—	120	mV
η	Efficiency	I_{O1},I_{O2}=100mA	—	70	—	%

TEST CIRCUIT DIAGRAM



FOR SAFETY USING

Great detail and careful attention are given to the production activity of Hics, such as the development, the quality of production, and in it's reliability. However the reliability of Hics depends not only on their own factors but also in their condition of usage. When handling Hics, please note the following cautions.

CAUTIONS	
Packing	The materials used in packing Hics can only withstand normal external conditions. When exposed to outside shocks, rain and certain environmental contaminators, the packing materials will deteriorates. Please take care in handling.
Carrying	1) Don't stack boxes too high. Avoid placing heavy materials on boxes. 2) Boxes must be positioned correctly during transportation to avoid breakage. 3) Don't throw or drop boxes. 4) Keep boxes dry. Avoid rain or snow. 5) Minimal vibration and shock during transportation is desirable.
Storage	When storing Hics, please observe the following notices or possible deterioration of their electrical characteristics, risk of solderability, and external damage may occur. 1) Devices must be stored where fluctuation of temperature and humidity is minimal, and must not be exposed to direct sunlight. Store at the normal temperature of 5 to 30 degrees Celsius with humidity at 40 to 60%. 2) Avoid locations where corrosive gasses are generated or where much dust accumulates. 3) Storage cases must be static proof. 4) Avoid putting weight on boxes.
Extended storage	When extended storage is necessary, Hics must be kept non-processed. When using Hics which have been stored for more than one year or under severe conditions, be sure to check that the exterior is free from flaw and other damages.
Maximum ratings	To prevent any electrical damages, use Hics within the maximum ratings. The temperaqture, current, voltage, etc. must not exceed these conditions.
Polarity	To protect Hics from destruction and deterioration due to wrong insertion, make sure of polarity in inserting leads into the board holes, conforming to the external view for the terminal arrangement.

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ISAHAYA ELECTRONICS CORPORATION
Marketing division, Marketing plannning department
6-41 Tsukuba, Isahaya, Nagasaki, 854-0065 Japan

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