

DE series

PCB mount ultra-compact, regulated, high voltage DC-DC converters



- 56 standard products
- Vin: 15Vdc or 24Vdc
- Vout: 0 to 1kV, 2kV, 4kV or 6kV
- Pout: 1W, 2W, 4W or 6W

(The DA & DE series are complementary)



Mains applications:

Avalanche Photo Diodes (APD)	Electrostatic Chuck (E-chuck)	Gas Chromatography
Geiger-Müller Tubes (GM Tubes)	Particle physics detectors	Scanning electron microscopes
Laser range finder detectors	Photomultiplier Tubes (PMT)	PZT Drivers

Features :

Small and lightweight	Tight line / load regulation	Low ripple (0.005% Vpk-to-pk)
PCB flat mounting	Voltage & current monitors	Low noise due to metal shielding
Adjustable output from 0 to 100%	Arc and short circuit protected	Thermal protection

Specifications (at Tamb=25°C unless otherwise specified):

Input voltage Vin, (pins 2 & 3)	15Vdc $\pm$ 1.5Vdc or 24Vdc $\pm$ 2Vdc, according to model
HV output Vout, (pin 8)	0 to 1000V through 0 to 6000V according to model
Polarity	Fixed positive [DExxP] or negative [DExxN]; refer to the Selection Guide
HV setting, (pins 4 & 6)	Option C5: via external voltage source 0/ 5V $\pm$ 0.1 % at full scale, impedance input = 1M Ω Option C10: via external voltage source 0/ 10V $\pm$ 0.1 % at full scale, impedance input =166K Ω
Max. output current Iout	Limited to 110 % of nominal current; refer to the Selection Guide
Load voltage regulation	$\pm$ 0,01 % of full output voltage for no load to full load
Line voltage regulation	$\pm$ 0,01 % of full output voltage over specified input voltage range
Ripple	0,005 % peak-to-peak at full load
Temperature coefficient	100ppm/°C
Output HV monitoring (pin 7) (still operating in inhibition mode)	• Option C5: analog 0/+ 5V buffered output signal, accuracy $\pm$0.2 % • Option C10: analog 0/+10V buffered output signal, accuracy $\pm$0.2 % Output impedance = 1k Ω Temperature coefficient: 100ppm/°C
Output current monitoring (pin 5) (still operating in inhibition mode)	Option C5: analog 0/+ 5V buffered output signal, accuracy $\pm$ 2 % Option C10: analog 0/+10V buffered output signal, accuracy $\pm$ 2 % Output impedance = 1k Ω Temperature coefficient: 100ppm/°C
HV power ON/OFF (pin 1)	To enable HV output, connect pin 1 to ground. Open collector and TLL level signal compatible. Unconnected pin1 disables HV output.
Operating temperature	Refer to Derating Curve below
Storage temperature	-10°C to +70°C



SDS HIGH VOLTAGE
18 avenue Raspail
94100 SAINT MAUR DES FOSSES - France
+33(0)1 48 76 88 45
contact@sdshv.com
www.sdshv.com

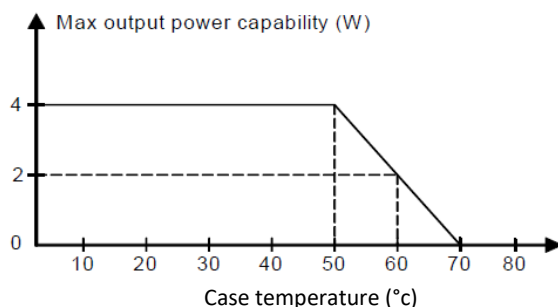
DE series

PCB mount ultra-compact, regulated, high voltage DC-DC converters

Safeguards

- Protected against reverse V_{in}
- Soft start feature : the start is guaranteed with no overshoot
- Auto inhibition if $T_{case} > 75^{\circ}\text{C}$ (automatic restart after cooling)
- HV setting internally limited to 10.6V for the C10 models and to 5.3V for the C5 models

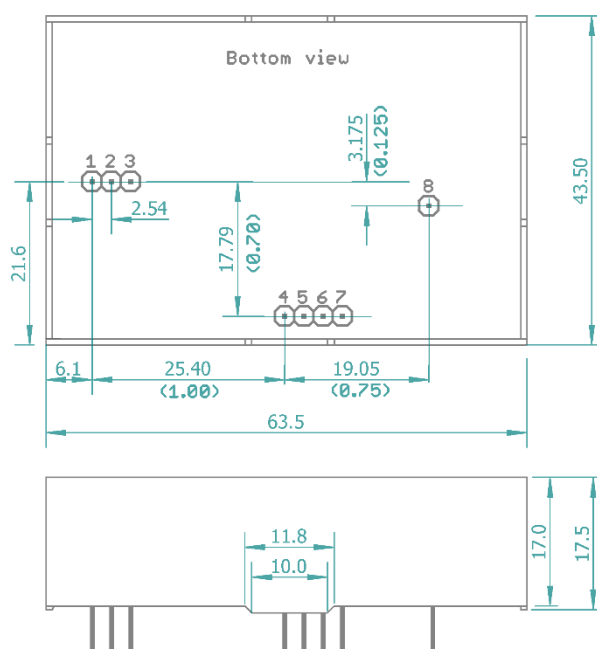
Derating curve:



The installation of a heatsink might be necessary in a confined environment.

Mechanical dimensions & pinout:

Material: RoHS tinned steel sheet 0.8mm
Dimensions in mm (inch).
Overall tolerance: ± 0.1



Warning: do not trace any copper track on the top side of the substrate board to prevent contact with the metal case



SDS HIGH VOLTAGE
18 avenue Raspail
94100 SAINT MAUR DES FOSSES - France
+33(0)1 48 76 88 45
contact@sdshv.com
www.sdshv.com

Page | 2
DE series 2.0— Sept 2025
©SDS HIGH VOLTAGE 2025

DE series

PCB mount ultra-compact, regulated, high voltage DC-DC converters

Package configuration:

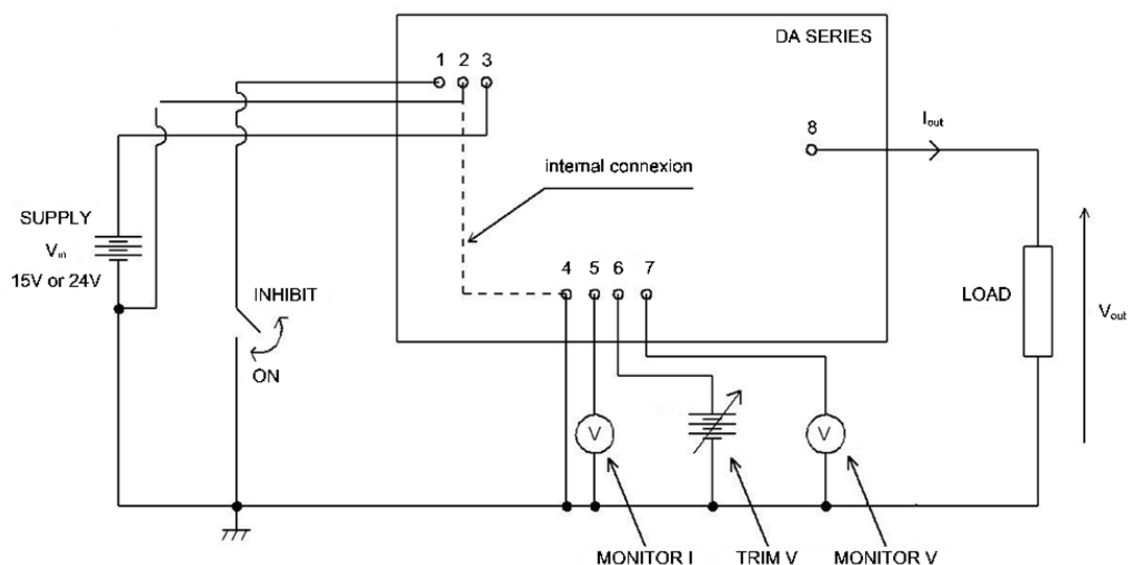
Case material	Tin steel plate
Case dimensions LxWxH	63.5 x 44.0 x 17.5 mm
Pins	Square 0.63 x 0.63 mm
Weight	72g
Insulation	Fully potted in an UL registered epoxy resin

Pins function:

HV inhibition (logic input)	1: input inhibit
Input supply	2: supply 0V 3: supply V+
Signal ground	4: 0V signal
HV current monitor (analog output)	5: current monitor
HV setting (analog input)	6: control input
HV voltage monitor (analog output)	7: voltage monitor
HV output	8: HV

Note : Pin 2, pin 4 and the case are internally connected. HV return path must be connected to pin 2.

Pins function:



SDS HIGH VOLTAGE
18 avenue Raspail
94100 SAINT MAUR DES FOSSES - France
+33(0)1 48 76 88 45
contact@sdshv.com
www.sdshv.com

DE series

PCB mount ultra-compact, regulated, high voltage DC-DC converters

Ordering selection guide:

Vout	Iout/pout	Vin	Polarity	Ctrl/ Monitor	Old references	Ordering references	#
1kV	6.0mA / 6W	15V	-	0/5V	DE15N102602-5	DE15N1-6-C5	#1
				0/10V	DE15N102602-10	DE15N1-6-C10	#2
			+	0/5V	DE15P102602-5	DE15P1-6-C5	#3
				0/10V	DE15P102602-10	DE15P1-6-C10	#4
		24V	-	0/5V	DE24N102602-5	DE24N1-6-C5	#5
				0/10V	DE24N102602-10	DE24N1-6-C10	#6
			+	0/5V	DE24P102602-5	DE24P1-6-C5	#7
				0/10V	DE24P102602-10	DE24P1-6-C10	#8
2kV	3.0mA / 6W	15V	-	0/5V	DE15N202302-5	DE15N2-6-C5	#9
				0/10V	DE15N202302-10	DE15N2-6-C10	#10
			+	0/5V	DE15P202302-5	DE15P2-6-C5	#11
				0/10V	DE15P202302-10	DE15P2-6-C10	#12
		24V	-	0/5V	DE24P202302-5	DE24P2-6-C5	#13
				0/10V	DE24P202302-10	DE24P2-6-C10	#14
			+	0/5V	DE24N202302-5	DE24N2-6-C5	#15
				0/10V	DE24N202302-10	DE24N2-6-C10	#16
4kV	1.5mA / 6W	15V	-	0/5V	DE15N402152-5	DE15N4-6-C5	#17
				0/10V	DE15N402152-10	DE15N4-6-C10	#18
			+	0/5V	DE15P402152-5	DE15P4-6-C5	#19
				0/10V	DE15P402152-10	DE15P4-6-C10	#20
		24V	-	0/5V	DE24N402152-5	DE24N4-6-C5	#21
				0/10V	DE24N402152-10	DE24N4-6-C10	#22
			+	0/5V	DE24P402152-5	DE24P4-6-C5	#23
				0/10V	DE24P402152-10	DE24P4-6-C10	#24
6kV	160μA / 1W	15V	-	0/5V	DE15N602161-5	DE15N6-1-C5	#25
				0/10V	DE15N602161-10	DE15N6-1-C10	#26
			+	0/5V	DE15P602161-5	DE15P6-1-C5	#27
				0/10V	DE15P602161-10	DE15P6-1-C10	#28
		24V	-	0/5V	DE24N602161-5	DE24N6-1-C5	#29
				0/10V	DE24N602161-10	DE24N6-1-C10	#30
			+	0/5V	DE24P602161-5	DE24P6-1-C5	#31
				0/10V	DE24P602161-10	DE24P6-1-C10	#32
	333μA / 2W	15V	-	0/5V	DE15N602331-5	DE15N6-2-C5	#33
				0/10V	DE15N602331-10	DE15N6-2-C10	#34
			+	0/5V	DE15P602331-5	DE15P6-2-C5	#35
				0/10V	DE15P602331-10	DE15P6-2-C10	#35



SDS HIGH VOLTAGE
18 avenue Raspail
94100 SAINT MAUR DES FOSSES - France
+33(0)1 48 76 88 45
contact@sdshv.com
www.sdshv.com

Page | 4
DE series 2.0– Sept 2025
©SDS HIGH VOLTAGE 2025

DE series

PCB mount ultra-compact, regulated, high voltage DC-DC converters

	666µA / 4W	24V	-	0/10V	DE15P602331-10	DE15P6-2-C10	#36
				0/5V	DE24N602331-5	DE24N6-2-C5	#37
			+	0/10V	DE24N602331-10	DE24N6-2-C10	#38
				0/5V	DE24P602331-5	DE24P6-2-C5	#39
		15V	-	0/10V	DE24P602331-10	DE24P6-2-C10	#40
				0/5V	DE15N602661-5	DE15N6-4-C5	#41
			+	0/10V	DE15N602661-10	DE15N6-4-C10	#42
				0/5V	DE15P602661-5	DE15P6-4-C5	#43
	1 mA / 6W	24V	-	0/10V	DE15P602661-10	DE15P6-4-C10	#44
				0/5V	DE24N602661-5	DE24N6-4-C5	#45
			+	0/10V	DE24N602661-10	DE24N6-4-C510	#46
				0/5V	DE24P602661-5	DE24P6-4-C5	#47
		15V	-	0/10V	DE24P602661-10	DE24P6-4-C10	#48
				0/5V	DE15N602102-5	DE15N6-6-C5	#49
			+	0/10V	DE15N602102-10	DE15N6-6-C10	#50
				0/5V	DE15P602102-5	DE15P6-6-C5	#51
	1 mA / 6W	24V	-	0/10V	DE15P602102-10	DE15P6-6-C10	#52
				0/5V	DE24N602102-5	DE24N6-6-C5	#53
			+	0/10V	DE24N602102-10	DE24N6-6-C10	#54
				0/5V	DE24P602102-5	DE24P6-6-C5	#55
		15V	-	0/5V	DE24P602102-10	DE24P6-6-C10	#56
				0/10V	DE24P602102-10	DE24P6-6-C10	#56



SDS HIGH VOLTAGE
18 avenue Raspail
94100 SAINT MAUR DES FOSSES - France
+33(0)1 48 76 88 45
contact@sdshv.com
www.sdshv.com

Page | 5
DE series 2.0– Sept 2025
©SDS HIGH VOLTAGE 2025