

## SMD- PSDV-xxxxELF 1 KV ISOLATED 0.25W UNREGULATED SINGLE OUTPUT SMD SERIES

### Available Inputs:

5, 12, 24 VDC

### Available Outputs:

3.3, 5, 9, 12, 15 VDC

Other specifications please enquire.

## Electrical Specifications

(Typical at + 25° C, nominal input voltage, rated output current unless otherwise specified)

### Input Specifications

Voltage range

+/- 10 %

Filter

Capacitors

### Isolation Specifications

Rated voltage

1000 VDC, min.

Resistance

1000 MOhm

### Output Specifications

Ripple and noise (at 20 MHz BW)

+/- 50 mV p-p, typ., +/- 75 mV p-p, max.

Line voltage regulation

1.0% of Vin; +/-1.2 % max (3.3Vout: +/-1.5% max)

Load voltage regulation (load = 10 ~ 100 %)

+/- 10%, max. (5Vout: 15% / 3.3Vout: 20%, max.)

Switching frequency (full load)

110kHz, typ. (24 Vin Models: 500kHz, typ.)

Temperature coefficient

+/- 0,03 % / °C

### General Specifications

Efficiency

See table

### Environmental Specifications

Operating temperature (ambient)

- 40° C to + 85° C, case max. 95°C

Storage temperature

- 55 °C to + 125 °C

Derating

See graph

Cooling

Free air convection

MTBF

3500 KHours, min.

### Physical Characteristics

Case material

Non conductive black plastic

RoHS conform

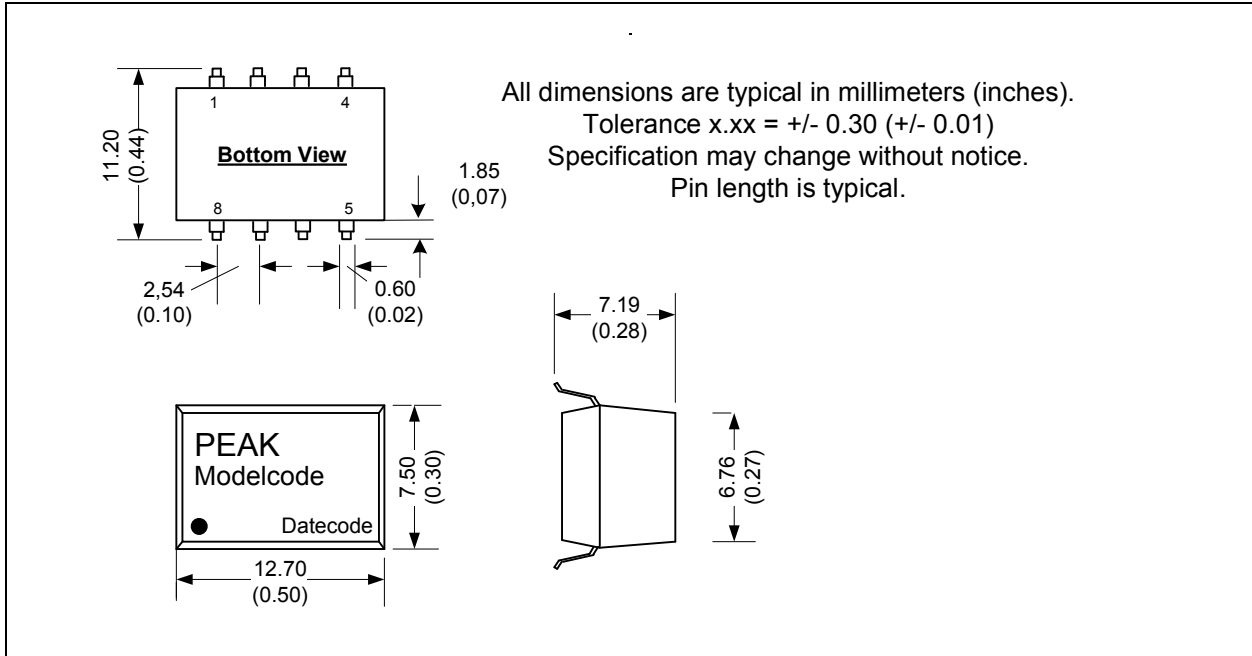
Soldering 260°C / 10 sec., max.

## Examples of Partnumbers

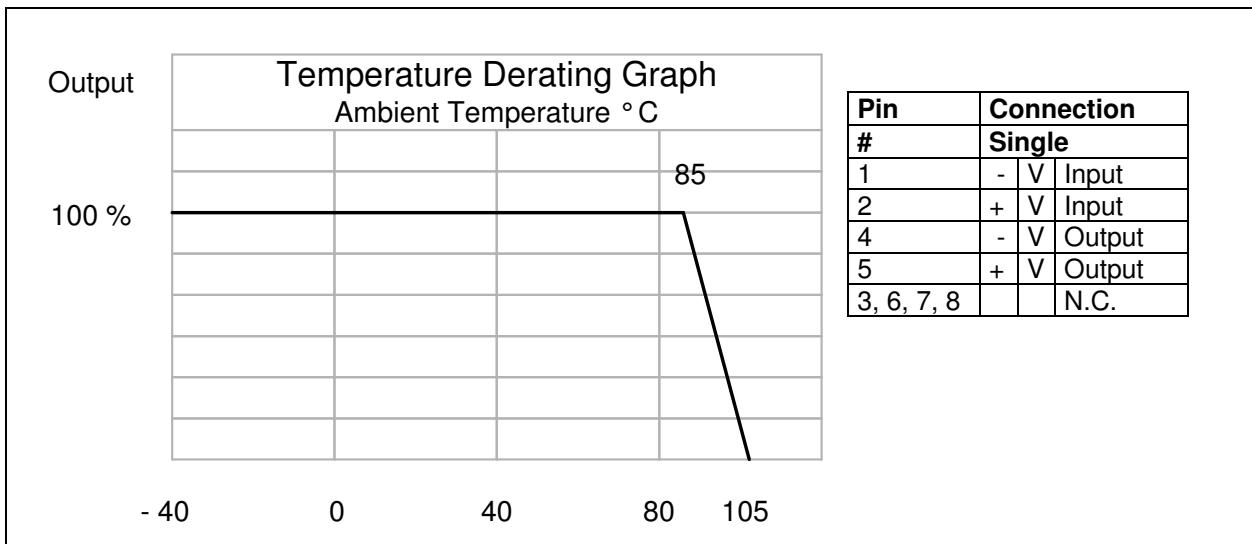
PART NO.	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (max. mA)	OUTPUT CURRENT (min. mA)	EFFICIENCY FULL LOAD (% MIN.)
PSDV-053R3ELF	5	3.3	76	8	62
PSDV-0505ELF		5	50	5	64
PSDV-0509ELF		9	28	3	65
PSDV-0512ELF		12	21	2	67
PSDV-0515ELF		15	17	2	66
PSDV-1205ELF	12	5	50	5	65
PSDV-1209ELF		9	28	3	64
PSDV-1212ELF		12	21	2	63
PSDV-1215ELF		15	17	2	64
PSDV-2405ELF		24	5	50	5
PSDV-2409ELF	9		28	3	61
PSDV-2412ELF	12		21	2	63
PSDV-2415ELF	15		17	2	65

**SMD-SERIES PSDV-xxxxELF 1 KV ISOLATED 0.25W UNREGULATED SINGLE OUTPUT SMD**

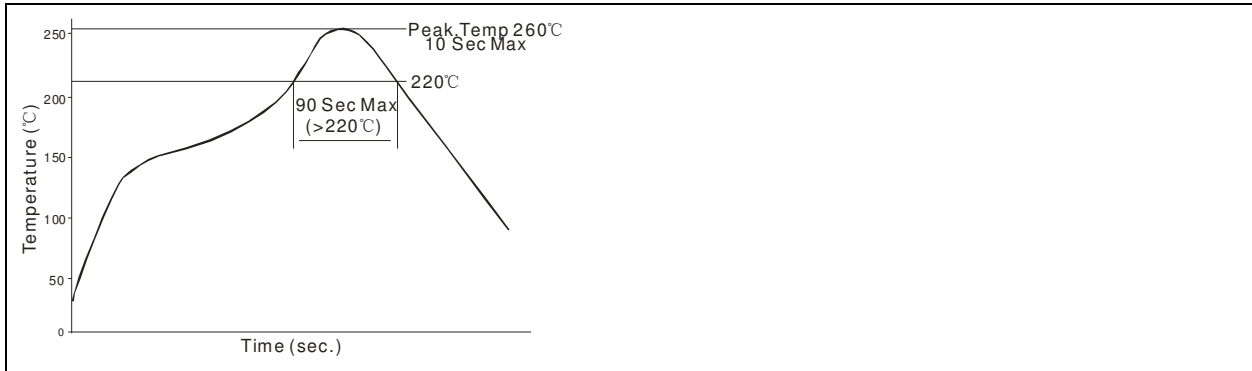
**Dimensions**



**Derating Graph and Pinning**



**Reflow**



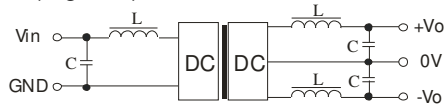
**App Notes**

**Requirement on output load**

To ensure this module can operate efficiently and reliably, During operation, the minimum output load is not less than 10% of the full load, and that this product should never be operated under no load! If the actual output power is very small, please connect a resistor with proper resistance at the output end in parallel to increase the load, or use our company's products with a lower rated output power.

**Recommended testing circuit**

If you want to further decrease the input/output ripple, an "LC" filtering network may be connected to the input and output ends of the DC/DC converter, see (Figure1).

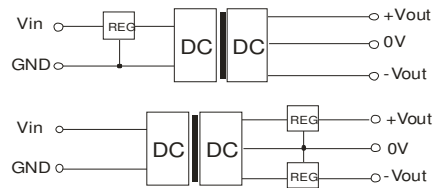


(Figure 1)

It should also be noted that the inductance and the frequency of the "LC" filtering network should be staggered with the DC/DC frequency to avoid mutual interference. However, the capacitance of the output filter capacitor must be proper. If the capacitance is too big, a startup problem might arise. It's not recommend to connect any external capacitor in the application field.

**Output Voltage Regulation and Over-voltage Protection Circuit**

The simplest device for output voltage regulation, over-voltage and over-current protection is a linear voltage regulator with overheat protection that is connected to the input or output end in series (Figure2).



( Figure2)

**Overload Protection**

Under normal operating conditions, the output circuit of these products has no protection against overload. The simplest method is to connect a self-recovery fuse in series at the input end or add a circuit breaker to the circuit.

**No parallel connection or plug and play.**