PSDV-A-xxxxE

Mainzer Straße 151–153
D-55299 Nackenheim
Tel. +49 6135 7026 -0
Fax: +49 6135 931070
www.peak-electronics.de
peak@peak-electronics.de

PSDV-A-SERIES Rev.07-2015

- ✓ 0.25 Watt
- ✓ Unregulated
- ✓ **Single** Output
- ✓ **SMD** Case
- ✓ **1.5 kV - 3 kV** DC I/O Isolation
- ✓ **Continuous** Short Circuit Prot.
- ✓ **2 Years Warranty** (Date Code)

The PSDV-A series is a family of cost effective 0.25 W single output DC/DC converters. These converters are in an ultra miniature SMD 5-pin case. Devices are encapsulated. High performance features: 1500VDC and 3000VDC (for the most types) input/output isolation, industrial standard pinout, high power density. No heatsink required.

All specifications typical at Ta=25°C, nominal input voltage and full load unless otherwise specified

Input Specifications

Voltage Range	±10%
Current max.	15 – 68mA (See table)
Current No-Load	8 – 15mA (See table)
Filter	Capacitors
Reflected Ripple Current (@12uH)	20mA pk-pk (5Vin) 5mA pk-pk (12/24Vin)

General Specifications

Efficiency	Up to 79% (See table)
Isolation I/O (60 sec)	1500VDC (standard) 3000VDC (add "H30")
Isolation I/O Capacitance	20 pF
Isolation I/O Resistance	1000 MΩ, min.
Switching Frequency	100 kHz
Humidity (rel.)	95%
MTBF (Calculated MIL-HDBK-217F)	>3500 Khrs
Pin Welding Temperature (10 sec.)	300°C, max.
Reflow Soldering	245°C, peak (217°C ≤60s)

Output Specifications

Voltage accuracy	See App Note
Line regulation (per 1% Vin change)	±1.2% (1.5% for 3.3Vout)
Load regulation (10% to 100%)	See Table
Ripple & noise (20 MHz bandwidth)	20 mV pk-pk
Temperature coefficient	±0.03%/°C
Capacitor load (Test: min. Vin + const. load)	220uF
Short Circuit Protection	Continuous

Environment / Physical Specifications

Operation Temp.	-40°C to 105°C
Case Temp. Rise (nominal Input and full load)	15°C
Storage	-55°C to 125°C
Cooling	Nature / Free Air
Case Material	Plastic (UL94V-0 rated)
Potting	Epoxy (UL94V-0 rated)
Weight	~1.5 g

EMC Specifications

Radiated Emissions*	CISPR22/EN55022	Class B
Conducted Emissions*	CISPR22/EN55022	Class B
ESD (contact ±6KV / ±8KV)	IEC-61000-4-2	Pref. Criteria B

*Input filter components are required to meet (see App Note)

Selection Guide
Single Output

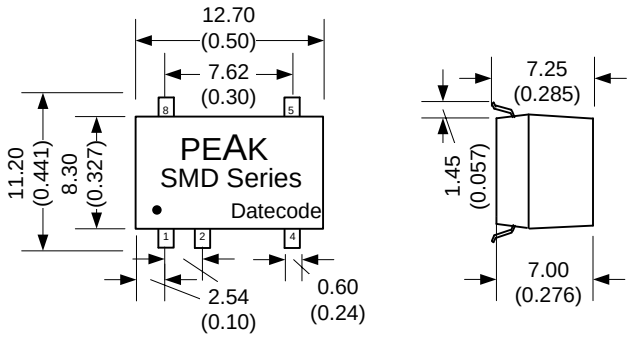
Order #	Input Voltage (VDC)	Output Voltage (VDC)	Output Current max. (mA)	Output Current min. (mA)	Input Current Full Load typ. (mA)	Input Current no Load typ. (mA)	Load Regulation (%)	Efficiency (%)
SINGLE OUTPUT								
PSDV-A-053R3E	5	3.3	76	8	68	15	15	74
PSDV-A-0505E*	5	5	50	5	68	15	12	79
PSDV-A-1205E*	12	5	50	5	27	10	12	79
PSDV-A-1212E	12	12	21	2	27	10	7	79
PSDV-A-2405E	24	5	50	5	15	8	12	71

If you need other specifications, please enquire.

***For optional 3000KV isolation, please add "H30"**
For example: PSDV-A-0505E**H30**

Notes:

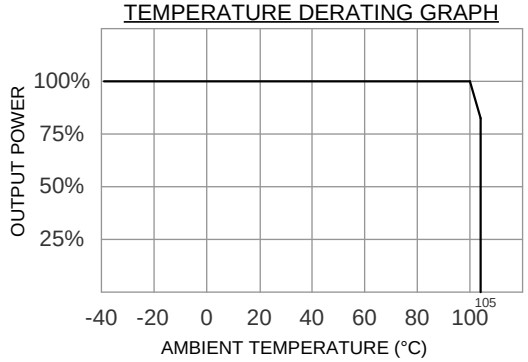
Package / Pinning / Derating



All dimensions are typical in millimeters (inches).
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.7 (+/-0.028)
Specification may change without notice.

PSDV-Series
Single output

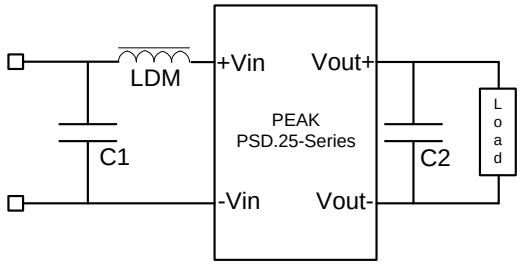
TEMPERATURE DERATING GRAPH



PIN CONNECTIONS	
#	SINGLE
1	- Vin
2	+Vin
4	- Vout
5	+Vout
8	N.C.

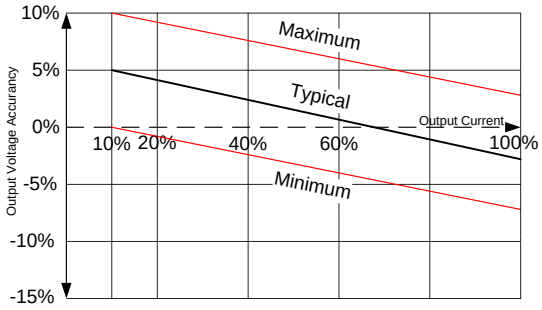
App Notes

EMC Typical Recommended Circuit (CLASS B)



Vout	C1	C2	LDM
3.3 / 5	4.7uF/50V	10 uF	6.8uH
12	4.7uF/50V	2.2 uF	6.8uH

Tolerance Envelope Curve



Requirement on output load
This module can operate efficiently and reliably if the minimum output load is **not less than 10%** of the full 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.

It is not recommended to increase the output power capability by connecting two or more converters in parallel. The product is not hot-swappable.

No parallel connection or plug and play.