

PSR1(L)-78xxC (-OF)

PSR-SERIES

Rev. 01-2018

- ✓ Non-Isolated
- ✓ **1000 mA**
- ✓ **Single Output**
- ✓ **SIP3 Case – optional Open Frame**
- ✓ **Short Circuit Protection**
- ✓ High Efficiency up to 96%

The PSR1 series is a family of cost effective switching regulators. These converters are in an ultra miniature SIP3 case. High performance features: high efficiency operation, available from 3.3 to 15 VDC output. Available as encapsulated or optional open frame.

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

Input Specifications

Voltage Range	See table
Current No Load	0.1 mA
Filter	Capacitors

Output Specifications

Voltage accuracy	±2%
Line regulation (per 1% Vin change)	±0.2%
Load regulation (10% to 100%)	±0.4%
Ripple & noise (20 MHz bandwidth)	75 mV pk-pk, max.
Short circuit protection	Continuous (auto recovery)
Temperature Drift Coefficient	±0.03% / °C, max.
Transient Response Deviation	50mV (25% load step)
Transient Recovery Time	0.1 – 1 ms, max.

General Specifications

Efficiency	Up to 96% (See table)
Switching Frequency	420 - 780 kHz
Humidity (rel.)	95%, max.
MTBF (Calculated MIL-HDBK-217F)	>2 Mhrs

Environment / Physical Specifications

Operation Temp. (with derating)	-40°C to 85°C
Storage	-55°C to 125°C
Cooling	Nature / Free Air
Case Material	Plastic (UL94V-0 rated) or Open Frame
Weight	3.8g (Plastic Case) 2.1g (Open Frame)

EMC Specifications

Radiated Emissions*	EN55022	Class B
Conducted Emissions*	EN55022	Class B
ESD	IEC-61000-4-2	Pref. Criteria B
RS	IEC-61000-4-3	Pref. Criteria A
EFT*	IEC-61000-4-4	Pref. Criteria B
Surge*	IEC-61000-4-5	Pref. Criteria B
CS	IEC-61000-4-6	Pref. Criteria A

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



Product Guide

Order #	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency Vin min. (%)	Efficiency Vin max. (%)	Capacitive Load, max. (uF)
<u>SINGLE OUTPUT</u>						
PSR1-783.3C	6 - 36	3.3	1000	81	90	680
PSR1-7805C	8 - 36	5	1000	86	93	680
	8 - 27	-5	-500	82	86	330
PSR1-783.3C	13-36	9	1000	90	95	680
PSR1-7812C	16 - 36	12	1000	93	96	680
	8 - 20	-12	-300	88	89	330
PSR1-7815C	20 - 36	15	1000	94	96	680
	8 - 18	-15	-300	89	89	330

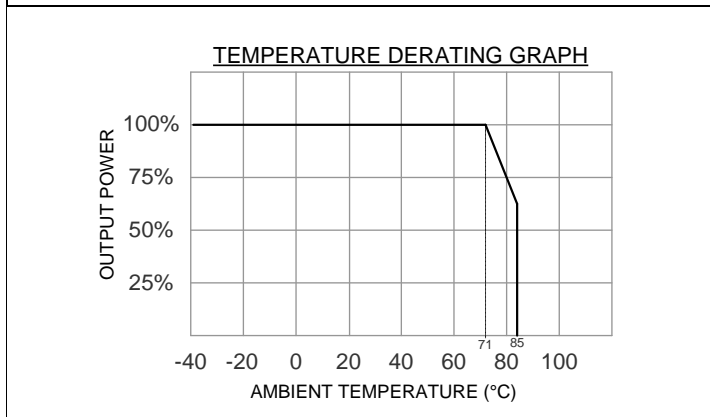
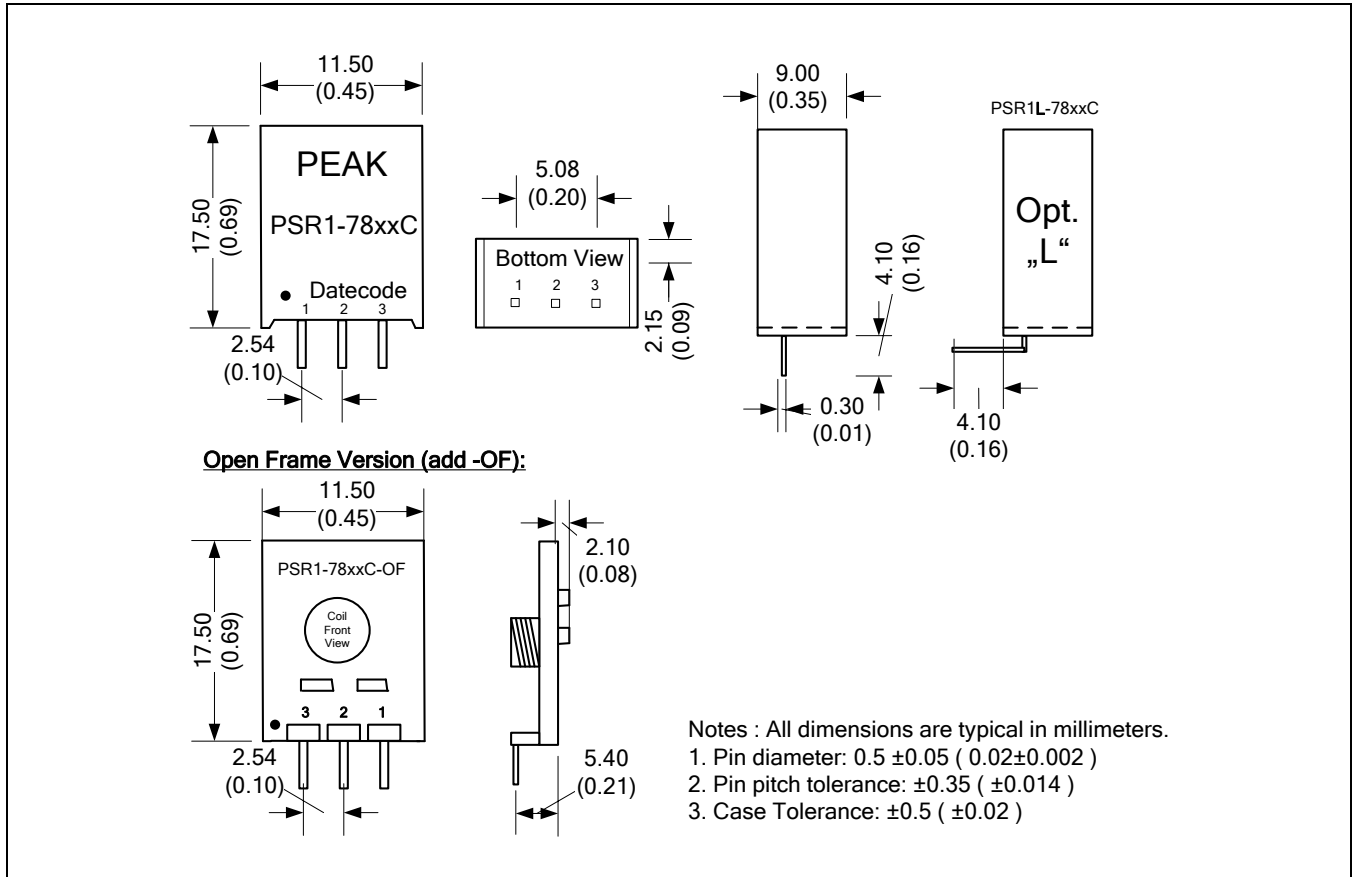
For input voltages higher than 30VDC, please add 22uF/50V input capacitor

How to Order:

Standard Plastic Case	PSR1-78xxC
Optional Laid	PSR1L-78xxC
Optional Open Frame	PSR1-78xxC-OF



Package / Pinning / Derating

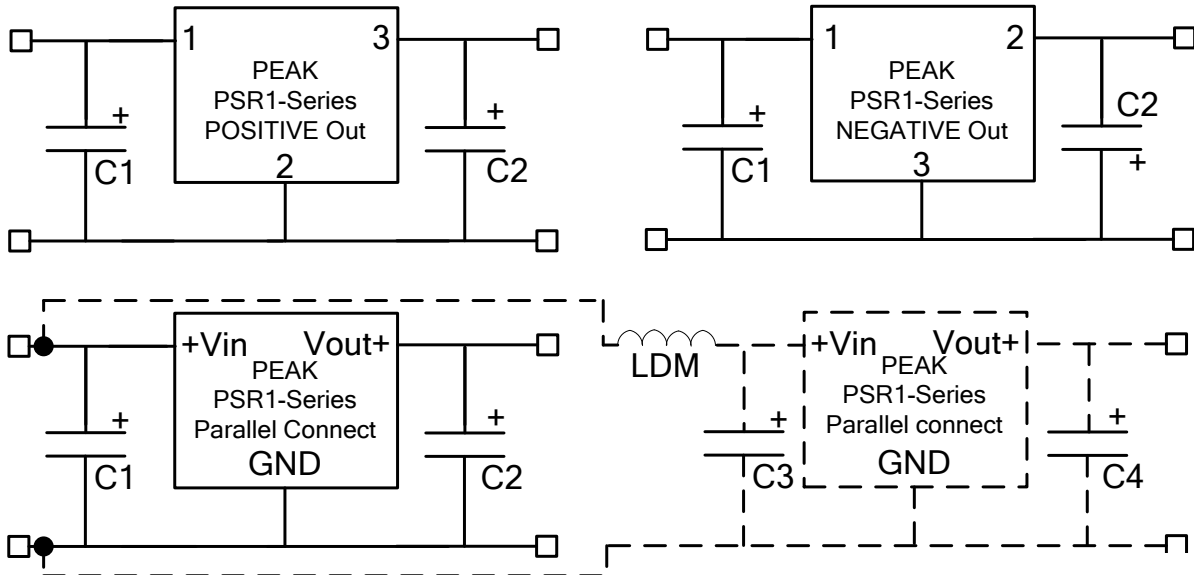


PIN CONNECTIONS		
#	Pos. Out	Neg. Out
1	+ Vin	+ Vin
2	GND	- Vout
3	+ Vout	GND



Application notes:

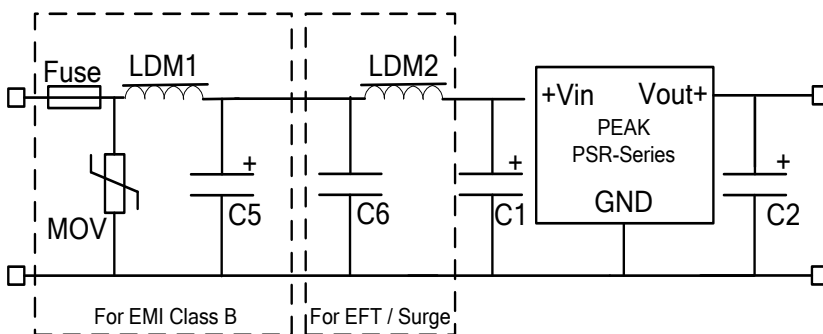
Recommended circuits:



SPECIFICATIONS

Part	C1/C3 (ceramic)	C2/C4 (ceramic)
PSR1-783.3C	10uF/50V	22uF/10V
PSR1-7805C	10uF/50V	22uF/10V
PSR1-7809C	10uF/50V	22uF/16V
PSR1-7812C	10uF/50V	22uF/25V
PSR1-7815C	10uF/50V	22uF/25V

Recommended circuit for EMC:



SPECIFICATIONS

Part	C1	C2	C5	C6	MOV	LDM1	LDM2
PSR1-783R3C	10uF/50V	22uF/10V	680uF/50V	4.7uF/50V	S20K30	82uH	12uH
PSR1-7805C	10uF/50V	22uF/10V	680uF/50V	4.7uF/50V	S20K30	82uH	12uH
PSR1-7809C	10uF/50V	22uF/16V	680uF/50V	4.7uF/50V	S20K30	82uH	12uH
PSR1-7812C	10uF/50V	22uF/25V	680uF/50V	4.7uF/50V	S20K30	82uH	12uH
PSR1-7815C	10uF/50V	22uF/25V	680uF/50V	4.7uF/50V	S20K30	82uH	12uH

