

PSRS1-78xxLF



PME02-SERIES Rev.07-2015

- ✓ 1000mA **Switching Regulator**
- ✓ **Wide** Input
- ✓ **SMD** Plastic Package
- ✓ Non-Isolated & Regulated
- ✓ **Adjustable** Output Voltage
- ✓ **Remote ON/OFF** Control

The PME02-1000mA Series with high efficiency switching regulators are ideally supply for space constrained mobile applications. They are no need for any heat sinks. The additional features include remote ON/OFF control and adjustable output voltage. Super low ripple and noise of typically only 20mV and a shutdown input current.

All specifications typical at $T_a=25^{\circ}\text{C}$, nominal input voltage and full load unless otherwise specified

Input Specifications

Voltage Range	Wide Input (See Table)
No-load Input Power	0.018 W
Reverse Input	Forbidden
Input Filter	Capacitor

Output Specifications

Voltage Accuracy (100% load)	$\pm 2\%$, typ.
Short Circuit Protection	Continuous (Hiccup / Automatic Recovery)
Line Regulation	$\pm 0.2\%$, typ.
Load Regulation (10% - 100% load)	$\pm 0.4\%$, typ.
Switching Frequency	1.4 MHz
Ripple and Noise (20Mhz bandwidth)* 1	35 mV pk-pk, max.
Output Current Limit	1.8 A
Temperature Drift	$\pm 0.02\%$ / $^{\circ}\text{C}$, max.
Over-temperature Protection	150 $^{\circ}\text{C}$
Transient Peak Deviation	$\pm 75\text{mV}$
Transient Recovery Time	100 μS

General Specifications

Capacitance Load*2	1000 μF , max.
ON/OFF control current ON: open or $1.2 < V_c \leq 6$ OFF: GND or $V_c < 0.4\text{V}$	100 μA
Shutdown Input Current	200 μA , max.
Reliability Calculated MTBF (MIL-HDBK-217F)	≥ 1000 K hrs
Hop Swap	Forbidden

Physical Specifications

Case Material	Non Conductive Black Plastic (UL94V-0 rated)
Weight	~ 2.3 g, typ.

Environment Specifications

Operating Temperature	-40 to +85 $^{\circ}\text{C}$ (ambient)
Maximum Case Temperature	100 $^{\circ}\text{C}$
Storage Temperature	-55 to +125 $^{\circ}\text{C}$
Cooling	Free Air Convection (10mm distance required)

PME02-Series – PSRS1-78xxLF – Switching Regulator – SMD – Plastic Case

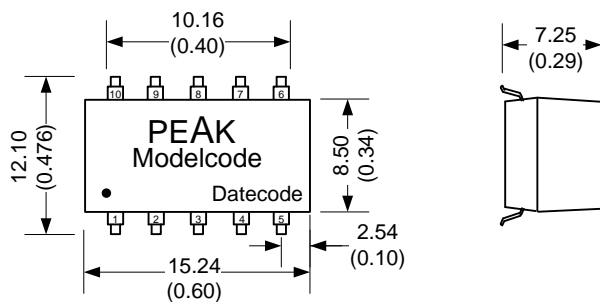
Specification can change without a notice – We accept no liability for any inaccuracy or printing errors.

Selection Guide

Order #	Input Voltage nom. (VDC)	Input Voltage Range (VDC)	Input Current (mA)	Output Normal (VDC)	Output Adjust Range (VDC)	Efficiency max. (%)
PSRS1-781R5LF	12	4.75 - 15	165	1.5	fixed	74
PSRS1-781R8LF	12	4.75 - 15	190	1.8	1.5 - 3.6	77
PSRS1-782R5LF	12	5.0 - 18	245	2.5	1.5 - 3.9	81
PSRS1-783R3LF	12	5.0 - 18	320	3.3	1.8 - 5.5	84
PSRS-7805LF	12	7.0 - 18	460	5	2.5 - 6.5	88
PSRS-786R5LF	12	8.5 - 18	580	6.5	fixed	91

If you need other specifications, please enquire.

Package / Pinning / Derating



PIN CONNECTIONS	
#	Switching Reg.
1	+Vin
5	+Vout
6	Vadj
7	GND
9	GND
10	ON/OFF
others	Omitted

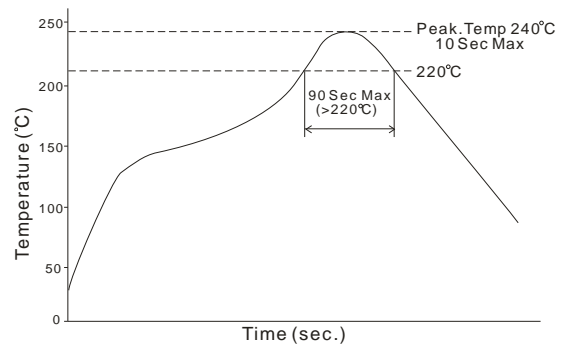
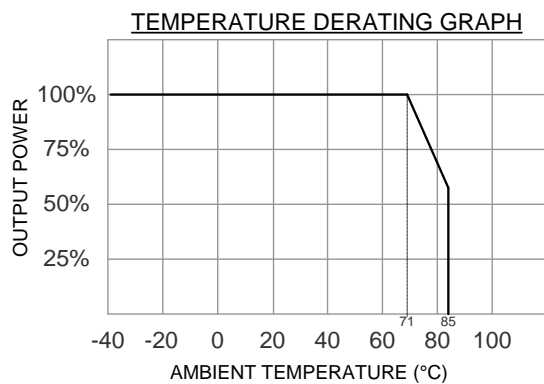
All dimensions are typical in millimeters (inches).

- Pin pitch tolerance: +/-0.35 (+/-0.014)

- Case tolerance +/-0.5 (+/-0.02)

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PME02-Series

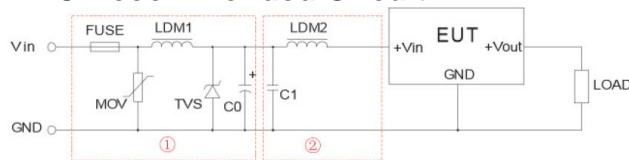


App Notes

EMC Specifications

EMI	CE	EN55022	Class A	(without external Circuit)
		EN55022	Class B	(External Circuit, Refer to fig.1)
	RE	EN55022	Class A	(External Circuit, Refer to fig.1)
EMS	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	perf. Criteria B
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±2KV	perf. Criteria B (External Circuit, Refer to fig.1)
	Surge	IEC/EN61000-4-5	±2KV	perf. Criteria B (External Circuit, Refer to fig.1)
	CS	IEC/EN61000-4-6	3Vr.ms	perf. Criteria A
	Voltage dips, short and interruptions immunity	IEC/EN 61000-4-29	0%-70%	perf. Criteria B

EMC Recommended Circuit



Note: (1) is EMS (2) is EMI recommended external Circuit

Recommended external circuit parameters:

Fuse: Choose according to practical input current

MOV: 10D560

LDM1: 82μH

TVS: SMCJ36A

C0: 120μF/50V

C1: 4.7 μF/50V

LDM2: 33μF

Notes:

*1 Ripple and Noise tested by "parallel cable" method.

*2 Max. Capacitive Load is tested at input voltage range and full load