



LMS78_2.0R1 series

Non-Isolated - Single Output - Wide Input

Switching Regulator

- ⊕ 3PIN SIP package
- ⊕ Pin-out compatible with LMS78xx linear
- ⊕ Efficiency up to 96%, non isolated, no need for heatsink
- ⊕ Customized solutions available
- ⊕ UL94V-0 package material
- ⊕ Operating temperature: -40°C to +82°C
- ⊕ Short circuit protection
- ⊕ Wide input voltage ranges 4.75~36VDC

Introducing our latest power LMS78_2.0R1 series featuring a 3PIN SIP package, designed to be pin-out compatible with LMS78xx Linear regulators. Achieving an efficiency of up to 96%, this non-isolated module eliminates the need for a heat-sink, making it both efficient and compact.

Our power module offers customized solutions to meet specific requirements and is built with UL94V-0 package material, ensuring durability and safety. It operates within a wide temperature range of -40°C to +82°C, making it suitable for various applications. With short circuit protection and wide input voltage ranges of 4.75~36VDC, this module is engineered for reliability and versatility.



Common specifications	
Short circuit protection:	Hiccup, automatic recovery
Operation temperature range:	-40°C – +82°C (with derating)
Storage temperature:	-55°C – +125°C
Humidity range:	95% RH (Non-condensing)
Cooling:	Natural Convection (20LFM)
Switching frequency:	500 kHz
Case material	Non-conductive black plastic
MTBF (MIL-HDBK-217F+25°C):	1630 x 10 ³ hours
Weight:	4.0 g
Dimensions:	11.5 x 8.5 x 17.5 mm

Output specifications					
Item	Test condition	Min	Typ	Max	Units
Voltage tolerance				±3	%
Line regulation	Vin = min to max at full load		±0.5		%
Load regulation	10% to 100% F.L		±0.5		%
Current limit	Duty = 40%		325		%
Ripple & noise (without output capacitor)	100% F.L.; BW = 20MHz			100	mVp-p
Transient response setting time	25% load step change		350		us
Capacitive load	ESR > 1mohm			900	uF

Example:
LMS78_05-2.0R1
 LM = Series; S = SIP Case; 05 = 5Vout; 2.0 = 2.0A; R1 = Revised

Input specifications					
Item	Test condition	Min	Typ	Max	Units
Input voltage range	See table	4.75	24	36	V
Internal input filter	Capacitors		10		uF
No load input current	Vin = 24V		15	20	mA

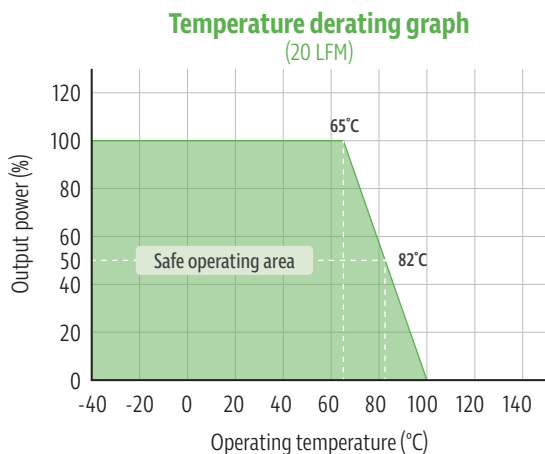
Product Selection Guide

Part Number	Input Voltage (VDC) Nominal (Range)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%) Vin (Min)	Efficiency (%) Vin (Max)
LMS78_1.8-2.0R1	4.75-36	1.8	2000	89	80
LMS78_02-2.0R1	4.75-36	2.5	2000	90	82
LMS78_03-2.0R1	4.75-36	3.3	2000	90	84
LMS78_05-2.0R1	6.5-36	5.0	2000	93	89
LMS78_06-2.0R1	9.0-36	6.5	2000	93	91
LMS78_09-2.0R1	12-36	9.0	2000	94	90
LMS78_12-2.0R1	15-36	12	2000	95	93
LMS78_15-2.0R1	18-36	15	2000	96	94

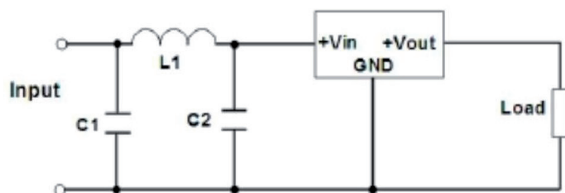
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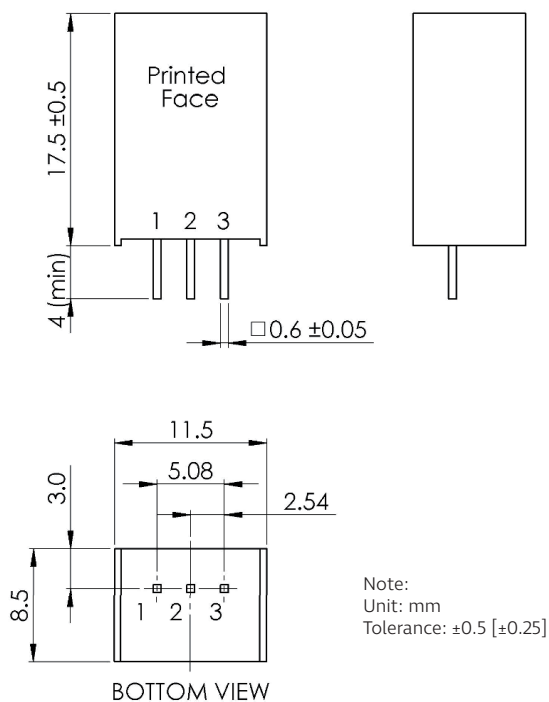
Typical characteristics



Typical application



Dimensions and recommended layout



PIN Assignment	
PIN	Mark
1	+Vin
2	GND
3	+Vout