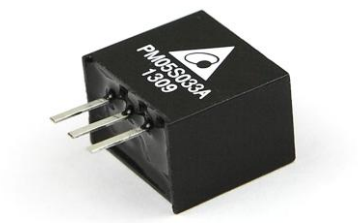
PM05S Series

SIP3, Single Output, Switching Regulator 0.5A, Package



FEATURES

- Efficiency up to 97%, Non-isolated
- SIP Package 11.5x7.5x10.2 mm
- Excellent Line/Loads Regulation
- Short Circuit Protection, Thermal Shutdown
- Low Ripple and Noise
- Operating Temperature range -40°C to +80°C
- Low Stand-by Current
- Wideinputrange (4.75V~32V)
- 3 Years Product Warranty

The PM05S series provides high efficiency switching regulators The high efficiency of these step-down converters allow an operating temperature up to 80°C at full-load without heatsink. The regulators come in a package which fits in the standard TO-220 footprint of linear regulators.
The high efficiency of up to 97% and low stand-by power consumption of these switching regulators offer a cost-efficient solution for different applications
These high efficiency DC/DC converters are the latest offering from a world leader in power systems technology and manufacturing — Delta Electronics, Inc..

Model List

Model Number	Input Voltage (Range)	Output Voltage	Output Current Max.	Max. capacitive Load	Efficiency (typ.) @Min. Vin	Efficiency (typ.) @Max. Vin
	VDC	VDC	mA	µF	%	%
PM05S015A	4.75 ~ 32	1.5	500	220	73	63
PM05S018A		1.8	500	220	82	71
PM05S025A		2.5	500	220	87	77
PM05S033A		3.3	500	220	91	81
PM05S050A	6.5 ~ 32	5	500	220	94	86
PM05S065A	8 ~ 32	6.5	500	220	95	88
PM05S090A	11 ~ 32	9	500	220	96	92
PM05S120A	15 ~ 32	12	500	220	97	94
PM05S150A	18 ~ 32	15	500	220	97	95

Input Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
Input Surge Voltage (1 sec. max.)		-0.3	---	34	VDC
Internal Filter Type		Capacitor			
Internal Power Dissipation		---	---	0.4	W
Short Circuit Input Power		---	---	1.5	W
Input Current	@No Load	---	5	7	mA

E-mail: dcdc@deltaww.com
http:// www.deltaww.com/dcdc

Output Characteristics

Parameter	Conditions		Min.	Typ.	Max.	Unit
Output Voltage Setting Accuracy			---	±2.0	±3.0	%Vnom.
Line Regulation	Vin=Min. to Max.	1.5V to 6.5V	---	±0.2	±0.4	%
		9V to 15V	---	±0.1	±0.2	%
Load Regulation	Io=10% to 100%	1.5V to 6.5V	---	±0.4	±0.6	%
		9V to 15V	---	±0.25	±0.4	%
Min.Load	No minimum Load Requirement					
Ripple & Noise (20MHz)	1.5V to 6.5V		---	20	30	mV_{P-P}
	9V to 15V		---	30	40	mV_{P-P}
Transient Recovery Time	50% Load Step Change		---	100	---	µsec
Transient Response Deviation			---	±2	---	%
Temperature Coefficient			---	---	±0.015	%/℃
Output Current Limit			---	---	1	A
Short Circuit Protection	Continuous					

General Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
I/O Isolation Voltage	none				
Switching Frequency		280	330	380	KHz
MTBF(calculated)	MIL-HDBK-217F@25℃, Ground Benign	2,000,000	---	---	Hours

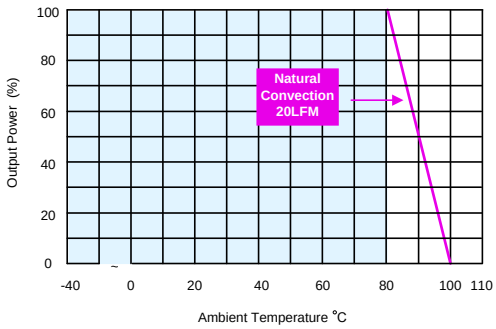
Environmental Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating Ambient Temperature Range (See Power Derating Curve)	Natural Convection	-40	---	+90	℃
Case Temperature		---	---	+100	℃
Storage Temperature		-55	---	+125	℃
Thermal Shutdown	Internal IC junction	---	160	---	℃
Humidity (non condensing)		---	---	95	% rel. H
Lead Temperature (1.5mm from case for 10Sec.)		---	---	260	℃

EMC Characteristics

Parameter	Standards & Level	Performance
Conducted EMI	Compliance to EN55022 and FCC part 15	Class B (See Page 3)
Radiated Emissions	EN55022	Class B
ESD	EN61000-4-2	Class A
Radiated immunity	EN61000-4-3	Class A
Fast transient (See Note 5)	EN61000-4-4	Class A
Conducted immunity	EN61000-4-6	Class A
Magnetic Field Immunity	EN61000-4-8	Class A

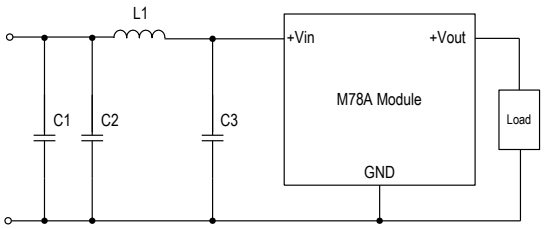
Power Derating Curve



Notes

1 Specifications typical at Ta=+25℃, resistive load, nominal input voltage, rated output current unless otherwise noted.
2 Ripple & Noise measurement bandwidth is 0-20 MHz.
3 All DC/DC converters should be externally fused at the front end for protection.
4 Other input and output voltage may be available, please contact factory.
5 The PM05S series can meet EN61000-4-4 by adding a capacitor across the input pins. Suggested capacitor CHEMI-CON KY 330μF/100V.
6 That “natural convection” is about 20LFM but is not equal to still air (0 LFM).
7 It needs to increase 1V for Vin(min) under high and low temperature.
8 Specifications are subject to change without notice.

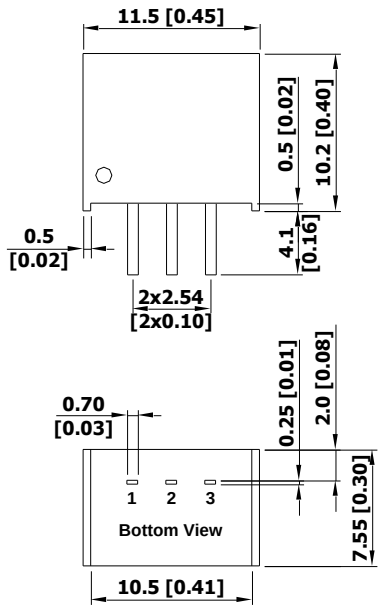
EMI-Filter to meet EN 55022, class A, class B; FCC part 15 ,level A



Class	Model	C1	C2	C3	L1
Class A	PM05S series	---	4.7μF/50V 1206 MLCC	4.7μF/50V 1206 MLCC	Wurth Elektronik NO. 744774033
Class B	PM05S series	4.7μF/50V 1206 MLCC	4.7μF/50V 1206 MLCC	4.7μF/50V 1206 MLCC	Wurth Elektronik NO. 74477410

Mechanical Drawing

Mechanical Dimensions



Pin Connections

Pin	Function
1	+Vin
2	GND
3	+Vout

- All dimensions in mm (inches)
- Tolerance: X.X±0.5 (X.XX±0.02)
  X.XX±0.25 (X.XXX±0.01)
- Pins ±0.05(±0.002)

Physical Characteristics

Case Size	:	11.5x7.55x10.2mm (0.45x0.30x0.40 inches)
Case Material	:	Non-Conductive Black Plastic (flammability to UL 94V-0 rated)
Pin Material	:	Alloy 42
Weight	:	1.95g

Part Numbering System

P	M	05	S	033	A
Form factor	Family series	Watt	Number of Outputs	Output Voltage	Option Code
P-SIP	M-Regulator	05:0.5AMP	S - Single	033:3.3VDC	A - Std. Functions

WARRANTY

Delta offers a three(3) years limited warranty. Complete warranty information is listed on our web site or is available upon request from Delta.

Information furnished by Delta is believed to be accurate and reliable. However, no responsibility is assumed by Delta for its use, nor for any infringements of patents or other rights of third parties, which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Delta. Delta reserves the right to revise these specifications at any time, without notice.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Non-Isolated DC/DC Converters ***category:***

Click to view products by Delta ***manufacturer:***

Other Similar products are found below :

PSR152.5-7IR APTH003A0X-SRZ SPM1004-3V3C R-785.0-05 10E24-P15-10PPM 1E24-P4-25PPM-SHV-5KV PROPOWER-3.3V MYGTM01210BZN 40C24-N250-I5-H 40A24-P30-E 3V12-P0.8 10C24-N250-I10-AQ-DA 4AA24-P20-M-H 3V12-N0.8 3V24-P1 3V24-N1 BMR4672010/001 BMR4652010/001 6AA24-P30-I5-M 6AA24-N30-I5-M BM2P101X-Z 35A24-P30 2.5M24-P1 PTV03010WAD PTV05020WAH PTV12010LAH PTV12020WAD R-7212D R-7212P R-78AA15-0.5SMD R-78AA5.0-1.0SMD 30A24-N15-E 10A12-P4-M 10C24-N250-I5 10C24-P125 10C24-P250-I5 6A24-P20-I10-F-M-25PPM 1A24-P30-F-M-C TSR 1-24150SM 1/2AA24-N30-I10 1C24-N125 12C24-N250 V7806-1500 PTV12020LAH PTV05010WAH PTN04050CAZT PTH12020WAD PTH12020LAS PTH05050YAH PTH05T210WAH