

# DELPHI SERIES



## FEATURES

- ♦ High efficiency:  
91% @ 12Vin, 5V/4A out  
93% @ 5Vin, 3.3V/6A out
- ♦ Small size and low profile:  
17.8x15.0x7.8mm (0.70"x0.59"x0.31")
- ♦ Monotonic startup into normal and pre-biased loads
- ♦ Input UVLO, output OCP
- ♦ Output short circuit protection
- ♦ Remote ON/OFF
- ♦ Fixed frequency operation
- ♦ Copper pad to provide excellent thermal performance
- ♦ ISO 9000, TL 9000, ISO 14001 certified manufacturing facility
- ♦ UL/cUL 60950 (US & Canada) Recognized, and TUV (EN60950) Certified
- ♦ CE mark meets 73/23/EEC and 93/68/EEC directives

## Delphi Series IPM-C, Non-Isolated, Integrated POL Power Modules: 3V~5.5V or 8V~14V input, 4A and 6A Output Current

The Delphi Series IPM04C and IPM12C non-isolated, fully integrated Point-of-Load (POL) power modules are the latest offerings from a world leader in power systems technology and manufacturing -- Delta Electronics, Inc. This product family provides up to 6A of output current or 20W of output power in an industry standard, compact, IC-like, molded package. It is highly integrated and does not require external components to provide the point-of-load function. A copper pad on the back of the module, in close contact with the internal heat dissipation components, provides excellent thermal performance. The assembly process of the modules is fully automated with no manual assembly involved. These converters possess outstanding electrical and thermal performance, as well as extremely high reliability under highly stressful operating conditions. They operate from a 3V~5.5V (IPM04C) or an 8V~14V (IPM12C) source and provide a programmable output voltage of 0.8V to 3.3V(IPM04C) or 0.8V to 5V(IPM12C). The IPM product family is available in both a SMD or SIP package.

## OPTION

- ♦ SMD or SIP package

## APPLICATIONS

- ♦ Telecom/DataCom
- ♦ Wireless Networks
- ♦ Optical Network Equipment
- ♦ Server and Data Storage
- ♦ Industrial/Test Equipment

## SPECIFICATIONS

GENERAL SPECIFICATIONS			OUTPUT SPECIFICATIONS		
Input Voltage	Typical	3V~5.5V, 8~14V	Voltage Accuracy	Typical	±1.5%
Switching Frequency	Typical	300KHz (04C)/ 500KHz (12C)	Line Regulation	Typical	±0.1%
Turn-on time	Typical	13mS(IPM04C)/ 17mS (IPM12C)	Load Regulation	Typical	±0.3%
MTBF	Bellcore	TBD	Ripple & Noise	Typical	30mVp-p(04C)/ 45mVp-p(12C)
Size (Body)	Typical	0.70" x 0.59" x 0.31"	Current Limits	Typical	200%

## PART NUMBERING SYSTEM

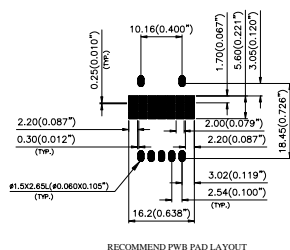
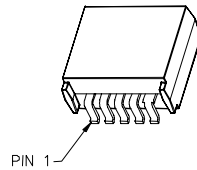
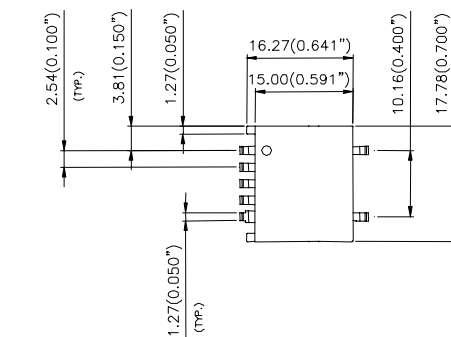
IPM	04	C	0A0	R	06	F	A
Product Family	Input Voltage	Number of Outputs	Output Voltage	Package	Output Current		Option Code
Integrated POL Module	04 - 3V ~ 5.5V 12 - 8V ~ 14V	C - Low current	0A0 – programmable output	R - SIP S - SMD	06 - 6A	F- RoHS 6/6 (Lead Free)	A - Standard Functions

## MODEL LIST

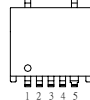
Model Name	Packaging	Input Voltage	Output Voltage	Output Current	Efficiency (Typical @ full
IPM12C0A0R04FA	SIP	8V ~14V	0.8V~5V	4A	91%
IPM12C0A0S04FA	SMD	8V ~14V	0.8V~5V	4A	91%
IPM04C0A0R06FA	SIP	3V ~ 5.5V	0.8V~ 3.3V	6A	93%
IPM04C0A0S06FA	SMD	3V ~ 5.5V	0.8V~ 3.3V	6A	93%

## MECHANICAL DRAWING

### SMD PACKAGE

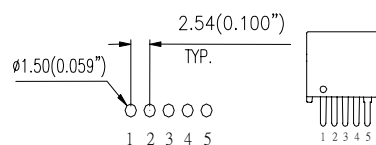
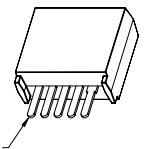
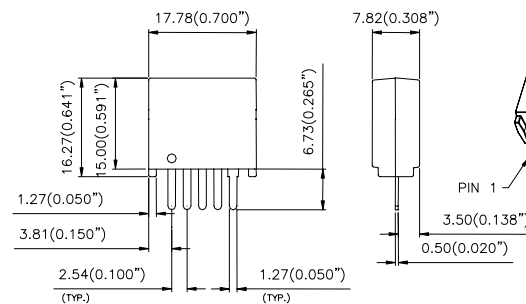


RECOMMEND PWB PAD LAYOUT



Pin#	Function
1	Remote on/off
2	+Vin
3	Ground
4	+Vo
5	Trim
6	No connection
7	No connection

### SIP PACKAGE



Pin#	Function
1	Remote on/off
2	+Vin
3	Ground
4	+Vo
5	Trim

ALL DIMENSION ARE IN MILLIMETERS (INCHES)

STANDARD DIMENSION TOLERANCE IS ± 0.10(0.004")

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## WARRANTY

Delta offers a two (2) year 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.