



# 6W 1"x1" Package DC-DC Regulated Converter SKMW06 & DKMW06 series



## ■ Features

- DIP 1"x1" package with industry standard pinout
- 4:1 ultrawide input range
- Operating temperature range -40 ~ +85°C
- No minimum load required
- Comply to EN55032 radiated Class A without additional components
- High efficiency up to 86%
- Protections: Short circuit (Continuous) / Overload / Over voltage / Input under voltage
- 1.5KVDC I/O isolation
- 3 years warranty

## ■ Applications

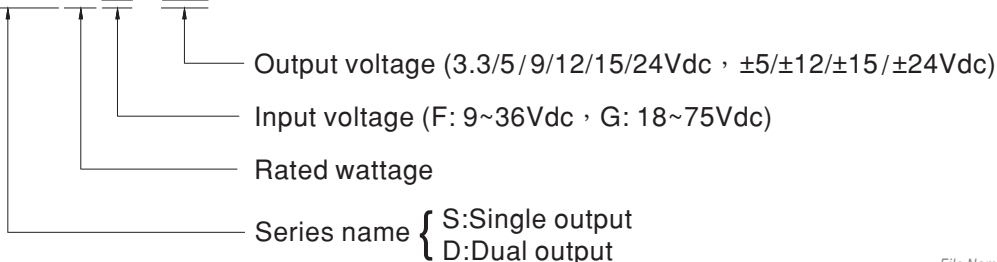
- Telecom/datacom system
- Wireless network
- Industrial control facility
- Instrument
- Analyzer
- Detector
- Data switch

## ■ Description

SKMW06 and DKMW06 series are 6W isolated and regulated module type DC-DC converter with DIP 1"x1" package. It features international standard pins, a high efficiency up to 86%, wide working temperature range -40~+85°C, 1.5KVDC I/P-O/P isolation voltage, compliance to EN55032 radiated Class A without additional components, continuous-mode short circuit, overload, over temperature, input under voltage protection etc. The models account for different input voltage 9~36V and 18~75V 4:1 ultrawide input range, and various output voltage, 3.3V/5V/9V/12V/15V/24V for single output and ±5V/±12V/±15V/±24V for dual outputs, which are suitable for all kinds of systems, Such as industrial control, telecommunication field, distributed power architecture, and so on.

## ■ Model Encoding

**SKMW06F-12**





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MODEL SELECTION TABLE							
ORDER NO.	INPUT			OUTPUT		EFFICIENCY (TYP.)	CAPACITOR LOAD (MAX.)
	INPUT VOLTAGE (RANGE)	INPUT CURRENT		OUTPUT VOLTAGE	OUTPUT CURRENT		
		NO LOAD	FULL LOAD				
SKMW06F-03	Normal 24V (9 ~ 36V)	5mA	268mA	3.3V	0~1500mA	77%	1800μF
SKMW06F-05		5mA	309mA	5V	0~1200mA	81%	1000μF
SKMW06F-09		7mA	309mA	9V	0~667mA	83%	680μF
SKMW06F-12		7mA	309mA	12V	0~500mA	85%	470μF
SKMW06F-15		8mA	309mA	15V	0~400mA	85%	220μF
SKMW06F-24		13mA	309mA	24V	0~250mA	86%	100μF
DKMW06F-05		7mA	309mA	±5V	±0~600mA	81%	*470μF
DKMW06F-12		9mA	309mA	±12V	±0~250mA	85%	*100μF
DKMW06F-15		11mA	309mA	±15V	±0~200mA	85%	*100μF
DKMW06F-24		17mA	309mA	±24V	±0~125mA	85%	*100μF
SKMW06G-03	Normal 48V (18 ~ 75V)	13mA	134mA	3.3V	0~1500mA	77%	1800μF
SKMW06G-05		2mA	155mA	5V	0~1200mA	81%	1000μF
SKMW06G-12		3mA	155mA	12V	0~500mA	85%	470μF
SKMW06G-15		3mA	155mA	15V	0~400mA	86%	220μF
SKMW06G-24		5mA	155mA	24V	0~250mA	86%	100μF
DKMW06G-05		3mA	155mA	±5V	±0~600mA	81%	*470μF
DKMW06G-12		4mA	155mA	±12V	±0~250mA	85%	*100μF
DKMW06G-15		5mA	155mA	±15V	±0~200mA	86%	*100μF

\* For each output

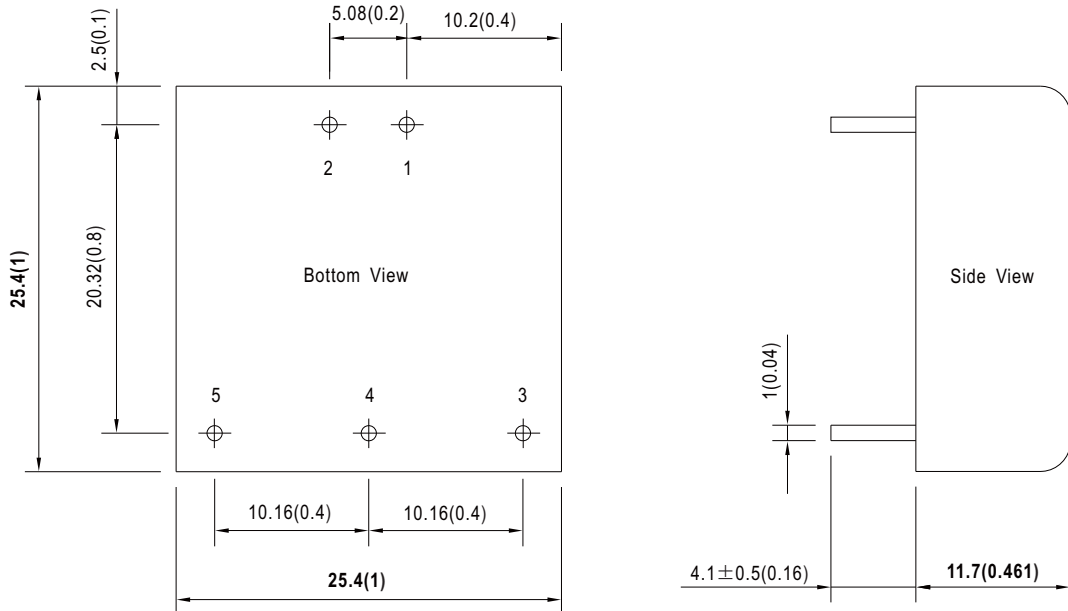


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SPECIFICATION				
INPUT	VOLTAGE RANGE	F: 9~36Vdc , G: 18~75Vdc		
	SURGE VOLTAGE (100ms max.)	24Vin models : 50Vdc, 48Vin models : 100Vdc		
	FILTER	Pi type		
	PROTECTION	Fuse recommended. 24Vin models: 1.5A delay time Type, 48Vin models: 0.8A delay time Type		
	INTERNAL POWER DISSIPATION	0.12W		
OUTPUT	VOLTAGE ACCURACY	±1%		
	RATED POWER	6W		
	RIPPLE & NOISE <small>Note.2</small>	60mVp-p(typ.), 85mVp-p(max.)		
	LINE REGULATION <small>Note.3</small>	±0.2%		
	LOAD REGULATION <small>Note.4</small>	Single output models: ±1%, Dual output models: Main road ±1%, Side road ±1.5%		
	SWITCHING FREQUENCY (Typ.)	300KHz		
PROTECTION	SHORT CIRCUIT	Protection type : Continuous, automatic recovery		
	OVERLOAD	110 ~ 190% rated output power		
		Protection type : Recovers automatically after fault condition is removed		
	OVER VOLTAGE	Protection type : Clamp by diode		
	UNDER VOLTAGE LOCKOUT	Start-up voltage	24Vin (F-type): 6.5Vdc, 48Vin (G-type): 15.5Vdc	
Shutdown voltage		24Vin (F-type): 5.5Vdc, 48Vin (G-type): 12Vdc		
ENVIRONMENT	COOLING	Free-air convection		
	WORKING TEMP.	-40 ~ +85°C (Refer to "Derating Curve")		
	CASE TEMPERATURE	+105°C max.		
	WORKING HUMIDITY	5% ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-55 ~ +125°C, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	0.03% / °C (0 ~ 71°C)		
	SOLDERING TEMPERATURE	1.5mm from case of 1 ~ 3sec./260°C max.		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes		
SAFETY & EMC ( Note.5)	SAFETY STANDARDS	UL60950-1, EAC TP TC 004 approved		
	WITHSTAND VOLTAGE	I/P-O/P:1.5KVDC		
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH		
	ISOLATION CAPACITANCE (Typ.)	1000pF		
	EMC EMISSION	<b>Parameter</b>	<b>Standard</b>	<b>Test Level / Note</b>
		Conducted	EN55032(CISPR32)	N/A
		Radiated	EN55032(CISPR32)	Class A without external components Class B with external components
	EMC IMMUNITY	<b>Parameter</b>	<b>Standard</b>	<b>Test Level / Note</b>
		ESD	EN61000-4-2	contact ±4KV
		Radiated Susceptibility	EN61000-4-3	10V/m
		EFT/Burest	EN61000-4-4	±2KV(see page 4)
Surge		EN61000-4-5	Line-Line ±2KV	
Conducted		EN61000-4-6	3Vrms	
OTHERS	MTBF	1000Khrs MIL-HDBK-217F(25°C)		
	DIMENSION (L*W*H)	25.4*25.4*11.7mm (1*1*0.461 inch)		
	CASE MATERIAL	Black coated copper with non-conductive base		
	PACKING	12.5g; 19pcs/per tube, 912pcs/48 tube/per carton		
NOTE	<p>1.All parameters are specified at normal input(F:24Vdc, G:48Vdc), rated load, 25°C 70% RH ambient.</p> <p>2.Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 47µf capacitor.</p> <p>3.Line regulation is measured from low line to high line at rated load.</p> <p>4.Load regulation is measured from 5% to 100% rated load.</p> <p>5.The final equipment must be re-confirm that it still meet EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p>			

## Mechanical Specification

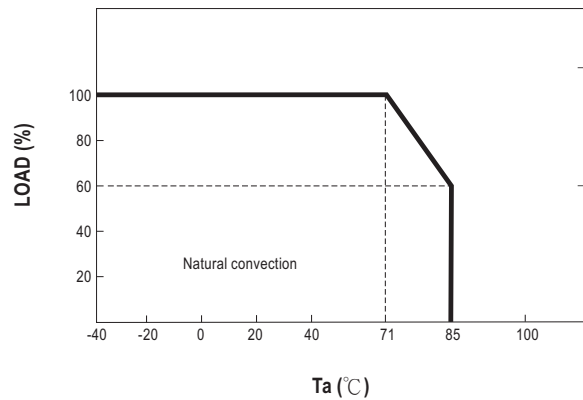
- All dimensions in mm(inch)
- Tolerance:  $x.xx \pm 1mm(x.xx \pm 0.25")$
- Pin size is  $1 \pm 0.1mm(0.04" \pm 0.004")$



## Plug Assignment

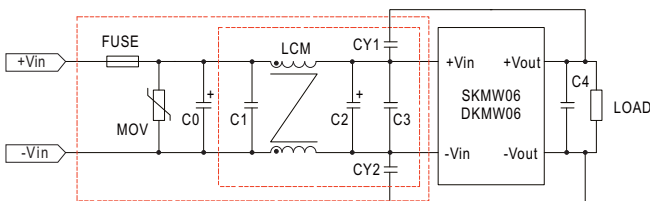
Pin-Out		
Pin No.	SKMW06 (Single output)	DKMW06 (Dual output)
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	N.P	Common
5	-Vout	-Vout

## Derating Curve



## EMC Suggest Circuit

\* Required external components to meet EN55032 radiated Class B emission as below:



Model	EN55032 Class B	
	Vin:24V	Vin:48V
FUSE	Choose according to actual input current	
MOV	S20K30	S14K60
C0	680µf / 50V	680µf / 100V
C1	1µf / 50V	1µf / 100V
C2	330µf / 50V	330µf / 100V
C3	4.70µf / 50V	4.70µf / 100V
C4	10µf / 50V	
LCM	4.7mH	
CY1 - CY2	1nF / 2KV	

## Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>