


Description: 20W 4KVAC Isolation Wide Input AC/DC Converters

20W with wide input voltage range, for both AC input and DC input application, can meet the EMC and safety specifications : IEC/EN61000-4, CISPR32/EN55032, EN62368 and other related standards .This series of products are widely used in smart home, high-end lighting, medical, industrial control, office and civil industries ,etc. please refer to the application circuit when the parts is applied in the environment with severe electromagnetic compatibility.

FEATURES

Input range : 90-528VAC/100-745VDC	Low ripple&noise	Operating temperature: -40℃ to 70℃
Output short circuit protection	4000VAC isolated	Output Over-voltage Over-current protection

SELECTION GUIDE

Part Number	Input voltage		Output		Efficiency (Typ.) %	Max.capacitive load (uF)
	(VAC)	(VDC)	voltage	Current		
	range	range	(VDC)	(mA)		
SLD20-26B03R	90-528	100-745	3.3	3600	74	10000
SLD20-26B05R	90-528	100-745	5	3600	78	10000
SLD20-26B09R	90-528	100-745	9	2230	79	7000
SLD20-26B12R	90-528	100-745	12	1660	82	5000
SLD20-26B15R	90-528	100-745	15	1330	83	3000
SLD20-26B24R	90-528	100-745	24	833	83	1000

INPUT CHARACTERISTICS

Parameter	conditions	Min.	Typ.	Max.	units
Input voltage	VAC	90		528	VDC
Input voltage	VDC	100		745	VDC
Input Frequency		47		63	Hz
Input Current	115VAC			0.8	A
Input Current	230VAC			0.4	A
Inrush Current	115VAC		30		A
Inrush Current	230VAC		60		A
Leakage Current	230VAC/50Hz	0.25mA RMS typ.			
External Fuse		3. 15A/500VAC slow-break, necessary			
Hot plug		Unavailable			

OUTPUT CHARACTERISTICS

Parameter	conditions	Min.	Typ.	Max.	units
Voltage accuracy	SLD20-26B03R		±3		%
Voltage accuracy	others		±2		%
Line regulation	100% load		±0.5		%
Load regulation	0%-100% load		±1.0		%
Ripple and noise *	20MHz bandwidth (peak-peak)			150	mV
Temperature coefficient			±0.02		%/℃
standby power				0.75	W
short circuit protection		Hiccup, continuous, self-recovery			
Over-current protection		130-400%Io, self-recovery			
Over-voltage protection	3.3/5V output	≤7.5V (clamp)			
Over-voltage protection	9V output	≤15V (clamp)			
Over-voltage protection	12/15V output	≤20V (clamp)			
Over-voltage protection	24V output	≤30V (clamp)			
Min. load		0			%
Power down holding tim	230VAC input		35		ms
Power down holding tim	400VAC input		100		ms

*Notes: The testing method for ripple and noise adopts the parallel line testing method

GENERAL CHARACTERISTICS

Parameter	conditions	Min.	Typ.	Max.	units
isolation Voltage	Input-output Test 1 minutes, leakage current <5mA	4000			VAC
Operating temperature	Refere to the derating curve	-40		+70	°C
Storage temperature		-40		+85	°C
Storage humidity				95	%RH
Soldering temperature	Wave soldering	260 ± 5°C ; time 5-10s			
Soldering temperature	Manual welding	360 ± 10°C ; time 3- 5s			
Switch frequency		--	65	--	kHz
Power derating	+55°C to +70°C	3.0	--	--	%/°C
Power derating	-40°C to -10°C	1.0	--	--	%/°C
Power derating	90VAC to 110VAC	2.0	--	--	%/VAC
Power derating	480AVC to 528VAC	0.417	--	--	%/VAC
Safety standard		EN62368			
Safety standard	3V/5V/9V/12V/15V/24V	EN62368			
Safety Class		CLASS II			
MTBF		MIL-HDBK-217F@25°C > 300,000 h			

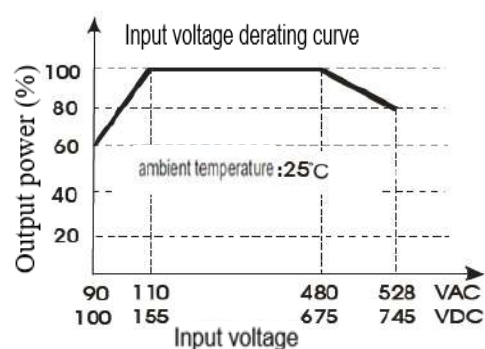
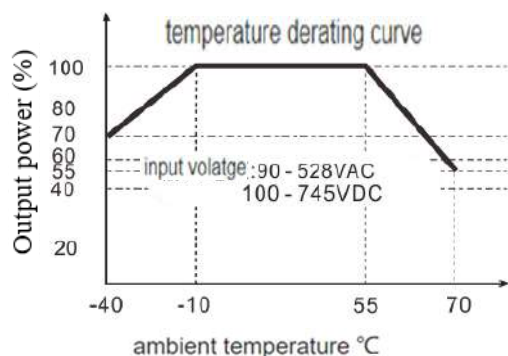
GENERAL CHARACTERISTICS

Case material	Flame-retardant plastic (UL94V-0)
Case Size	70.00*48.00*23.5mm
Net weight	160g (Typ.)
Cooling	Free air convection

EMC CHARACTERISTICS

EMI	Conducted Emission	CISPR32/EN55032	CLASS B
EMI	Radiation Emission	CISPR32/EN55032	CLASS B
EMS	Electrostatic discharge(ESD)	IEC/EN 61000-4-2	Contact ± 6KV /Air ± 8KV Perf. Criteria B
EMS	Rf radiation immunity (RF)	IEC/EN 61000-4-3	10V/m perf. Criteria A
EMS	EFT	IEC/EN 61000-4-4	± 2KV perf. Criteria B
EMS	EFT	IEC/EN 61000-4-4	± 4KV (see Fig 2, 3) perf. Criteria B
EMS	Surge	IEC/EN 61000-4-5	line to line ± 2KV perf. Criteria B
EMS	Surge	IEC/EN 61000-4-5	line to line ± 4KV (see Fig 2, 3) perf. Criteria B
EMS	Conducted disturbance immunity	IEC/EN61000-4-6	10Vr.m.s perf. Criteria A
EMS	Voltage sag, drop, and short-term interruption immunity	IEC/EN61000-4-11	0%,70% perf. Criteria B

CHARACTERISTICS CURVE

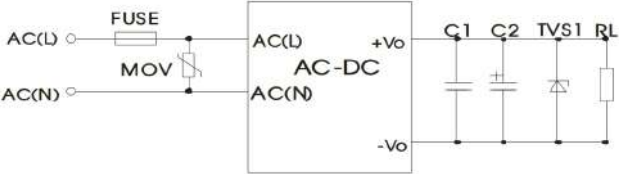


For input voltage @90 -110VAC/480 - 528VAC/100 -155VDC/675 - 745VDC, Input voltage derating needs to be carried out on the basis of temperature derating ;

DESIGN REFERENCE

1. typical application circuit

NOTES: Output filtering capacitor C2 is a electrolytic capacitor, it is recommended to use high frequency and low impedance electrolytic capacitor. For capacitance and current of capacitor please refer to manufacture’s datasheet. Output capacitor withstand voltage derating should be 80% or above. C1 is ceramic capacitor,used to filter high-frequency noise. TVS tube that is recommended for protecting the secondary circuit (in case of module abnormalities).



PN	FUSE	MOV	C1 (uF)	C2 (uF)	TVS1
SLD20-26B03R	3.15A/500VAC, Slow-break must be connected	20D102K	1	330	SMBJ7.0A
SLD20-26B05R				330	SMBJ7.0A
SLD20-26B09R				220	SMBJ12A
SLD20-26B12R				220	SMBJ20A
SLD20-26B15R				220	SMBJ30A
SLD20-26B24R				220	SMBJ30A

2. 2. EMC solution—recommended circuit

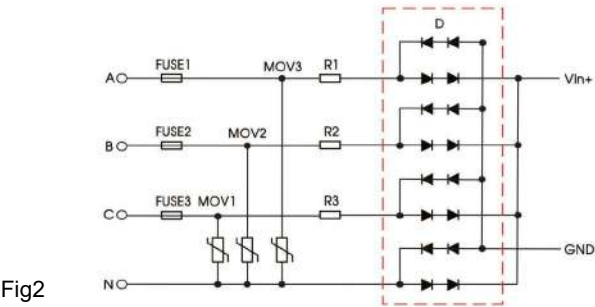


Fig2

Fig3

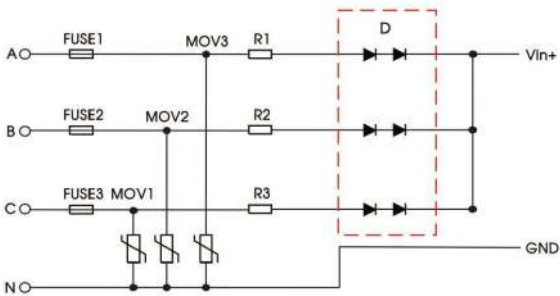
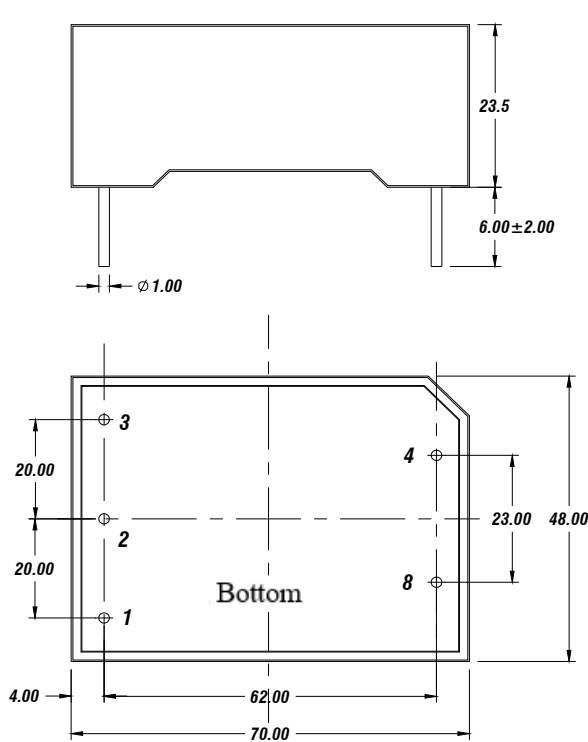


Fig2: Recommended circuit for high requirements of 4KV differential mode surge - full wave rectification

Fig3: Recommended circuit for high requirements of 4KV differential mode surge - half wave rectification

For the EMC higher requirements	
Components	Recommended value
MOV1、MOV2、MOV3	20D821K
D	2A/1000V
R1、R2、R3	10Ω/5W
FUSE1、FUSE2、FUSE3	3.15A/500VAC, Slow-break must be connected

MECHANICAL DIMENSIONS	PIN DESIGN												
1.DIP 	<table><tr><th>PIN</th><th>single</th></tr><tr><td>1</td><td>No Pin</td></tr><tr><td>2</td><td>AC (N)</td></tr><tr><td>3</td><td>AC (L)</td></tr><tr><td>4</td><td>+Vo</td></tr><tr><td>8</td><td>-Vo</td></tr></table> UNITS: mm pin diameter Tolerance : $\pm 0.10[\pm 0.004]$ Other Tolerance : $\pm 0.50[\pm 0.020]$	PIN	single	1	No Pin	2	AC (N)	3	AC (L)	4	+Vo	8	-Vo
PIN	single												
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