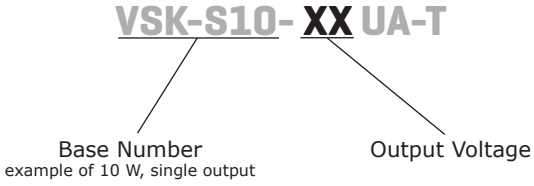
SERIES: VSK-S10-T | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

- up to 10 W continuous output
- encapsulated compact case
- universal input (85~264 Vac)
- single regulated output from 3.3~24 V
- over voltage, short circuit, and short circuit protection
- CE, UL safety approval
- efficiency up to 80%

MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise typ (mVp-p)	efficiency max (%)
VSK-S10-3R3UA-T	3.3	2	6.6	50	70
VSK-S10-5UA-T	5	2	10	50	74
VSK-S10-9UA-T	9	1.1	10	50	76
VSK-S10-12UA-T	12	0.9	10.8	50	76
VSK-S10-15UA-T	15	0.7	10.5	50	78
VSK-S10-24UA-T	24	0.45	10.8	50	80

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage		85 110		264 370	Vac Vdc
frequency		47		440	Hz
current	at 110 Vac at 230 Vac		230 150		mA mA
inrush current	at 110 Vac at 230 Vac		10 20		A A
input fuse	2 A / 250 V, slow-blow type				

OUTPUT

parameter	conditions/description	min	typ	max	units
voltage set accuracy	3.3 V model all other models		±3 ±2		% %
line regulation			±0.5		%
load regulation	at 10~100% load		±1		%
ripple & noise			50	100	mV
hold-up time	at 230 Vac		50		ms
switching frequency			60		kHz
temperature coefficient			0.02		%/°C

PROTECTIONS

parameter	conditions/description
over voltage protection	diode clamp
short circuit protection	shutdown and auto restart
over temperature protection	

				150	°C

SAFETY & COMPLIANCE

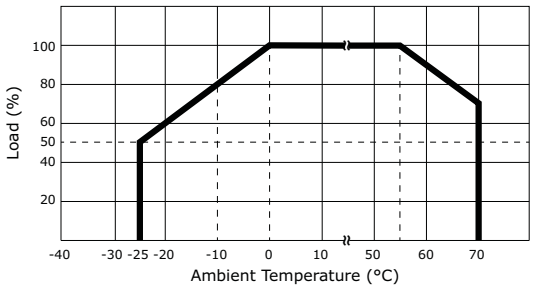
parameter	conditions/description	min	typ	max	units
isolation voltage	for 1 minute	4,000			Vac
safety approvals	IEC 60601, EN 60601, UL 60950				
safety class	Class II				
EMI/EMC	CISPR11/EN 55011 class B, IEC/EN 61000-4-(2, 3, 4, 5)				
leakage current	at 230 Vac		0.1		mA
MTBF	at 25°C, max. load	300,000			hours
RoHS compliant	yes				

ENVIRONMENTAL

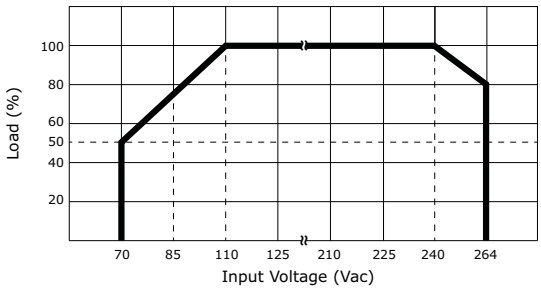
parameter	conditions/description	min	typ	max	units
operating temperature		-25		70	°C
storage temperature		-40		105	°C
case temperature				95	°C
humidity	non-condensing			95	%

DERATING CURVES

1. output power vs. ambient temperature



2. output power vs. input voltage

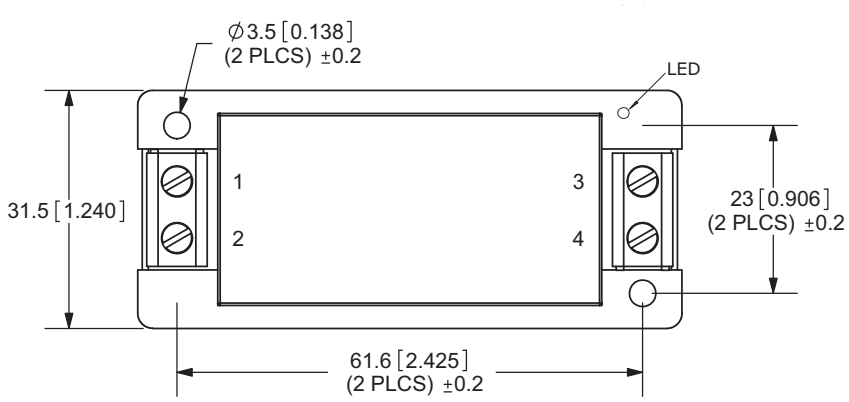


MECHANICAL

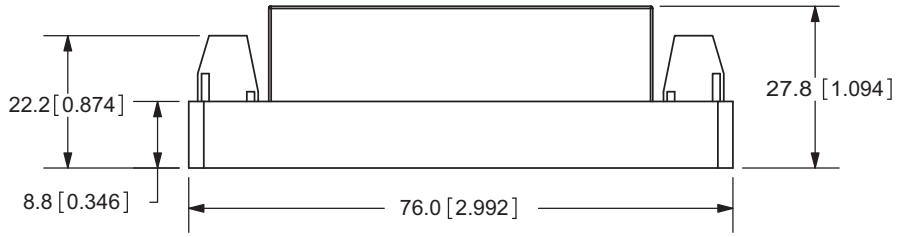
parameter	conditions/description	min	typ	max	units
dimensions	2.992 x 1.240 x 1.094 (76 x 31.5 x 27.8 mm)				inch
material	UL94V-0				
weight			100		g

MECHANICAL DRAWING

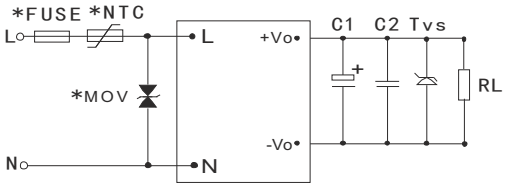
units: mm [inches]
tolerance: ±0.50 [±0.020]



PIN CONNECTIONS	
PIN	FUNCTION
1	AC(N)
2	AC(L)
3	+Vo
4	-Vo

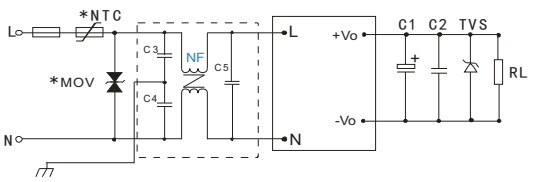


TYPICAL APPLICATION CIRCUIT



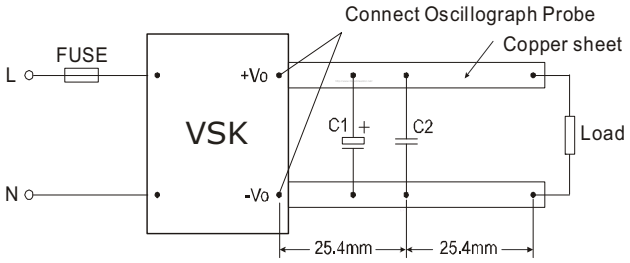
EXTERNAL CAPACITORS TYPICAL VALUE (Unit: µF)			
MODEL	**C1**	**C2**	**TVS**
VSK-S10-33UA-T	220 / 10V	0.1 / 50V	P6KE6.8A
VSK-S10-5UA-T	220 / 10V	0.1 / 50V	P6KE6.8A
VSK-S10-9UA-T	120 / 25V	0.1 / 50V	P6KE12A
VSK-S10-12UA-T	120 / 25V	0.1 / 50V	P6KE20A
VSK-S10-15UA-T	120 / 25V	0.1 / 50V	P6KE20A
VSK-S10-24UA-T	68 / 35V	0.1 / 50V	P6KE30A

EMC Filter (see note 3)



Notes:
1. Output filtering capacitors C1 is an electrolytic capacitor. It is recommended to use high frequency and low impedance electrolytic capacitors. For capacitance and current of capacitor please refer to the manufacturer's datasheet. Voltage derating of capacitor should be 80% or above. C2 is a ceramic capacitor that is used to filter high frequency noise. TVS is a recommended component to protect post-circuits (if converter fails).
2. MOV is required model: 471KD07; it is used to protect the device under surge
3. It is recommended to connect FUSE, the parameter is 2A/250V slow blow. External input NTC is recommended to use 5D-9.
4. If a higher requirement to EMC performance is required it is recommended to add and "EMC filter" at the input end, recommended parameter are as follows:
   C3,C4: Y capacitor, recommended parameter 2200pF/400V;
   C5: X capacitor, recommended parameter 0.1µF/275V
   NF: common model choke, recommended inductance is about 10~30mH.

PARALLEL LINES



REVISION HISTORY

rev.	description	date
1.0	initial release	09/06/2012
1.01	updated mechanical drawing and product photo	11/28/2012

The revision history provided is for informational purposes only and is believed to be accurate.

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