



SPECIFICATION FOR APPROVAL

www.twktec.com

KED-30W SERIES

AC-DC POWER SUPPLY

Customer Part NO. _____

Project Modify List

[illegible]

Manufacturer

SALES	QE	APPROVED BY	MADE BY
TAI	徐海鑫	贺洪明	冯朵朵

Approved Signatures

TESTED BY

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AC-DC POWER SUPPLY

KED-30W SERIES Manufacturer Part No.: KS251467



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1. INPUT REQUIREMENTS

1.1 Highlight & Features

- Wide input range (85 ~ 305 Vac)
- Wide operating temperature range (-40 to +85°C)
- Class B emissions
- Meet to 62368, 61558, and 60335 safety standards
- Over voltage, over current, short circuit protections
- Input over voltage category III for fixed installations



MOEDL	Output voltage	Output current	Output power	Ripple and noise	Efficiency
	(Vdc)	max (A)	Max (W)	max (mVp-p)	Typ (%)
KSE-30W-033600	3.3	6.0	19.8	100	85
KSE-30W-050600	5.0	6.0	30.0	100	86
KSE-30W-090340	9.0	3.4	30.6	100	88
KSE-30W-120250	12.0	2.5	30.0	100	90
KSE-30W-150200	15.0	2.0	30.0	100	90
KSE-30W-240125	24.0	1.25	30.0	150	88
KSE-30W-480063	48.0	0.63	30.2	150	90

Note: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, with 1 μ F ceramic and 10 μ F electrolytic capacitors on the output.

2. At 230 Vac input.

3. All specifications are measured at Ta=25°C, humidity <75%, nominal input voltage, and rated output load unless otherwise specified.

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2. INPUT

Parameter	Conditions/description	Min	Typ	Max	Units
Voltage	AC input	85		305	Vac
	DCinput(3.3/5/9/12/15/24 Vdc output models)	100		430	Vdc
	DC input (48 Vdc output model)	120		430	Vdc
Frequency		47		63	Hz
Current	at 115 Vac			0.75	A
	at 230 Vac			0.5	A
Inrush current	at 115 Vac		25		A
	at 230 Vac		50		A
Leakage current	at 277 Vac/50 Hz			0.1	mA

3. OUTPUT

Parameter	Conditions/description	Min	Typ	Max	Units
Capacitive load	3.3 Vdc output models			6,600	μ F
	5 Vdc output models			6,600	
	9 Vdc output models			4,400	
	12 Vdc output models			4,400	
	15 Vdc output models			3,300	
	24 Vdc output models			1,000	
	48 Vdc output models			470	
Output voltage accuracy	3.3 Vdc output model		± 3		%
	all other output models		± 2		%
Line regulation	at full load		± 0.5		%
Load regulation	0% ~ 100% load				
	3.3 Vdc output model		± 2		%
	5 Vdc output model		± 1.5		%
	all other output models		± 1		%

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Hold-up time	at 115 Vac		10		ms
	at 230 Vac		50		ms
Switching frequency			65		kHz
No load power consumption	at 230 Vac				
	3.3, 9, 12, 15, 24 Vdc output model			0.1	W
	5 Vdc output model			0.3	W
	48 Vdc output model			0.15	W

4. PROTECTIONS

Parameter	Conditions/description	Min	Typ	Max	Units
Over voltage protection	output voltage hiccup				
	3.3 Vdc output model			6.3	Vdc
	5, 9, 12 Vdc output model			16	Vdc
	15 Vdc output model			25	Vdc
	24 Vdc output model			35	Vdc
	48 Vdc output model			60	Vdc
Over current protection	auto recovery	110			%
Short circuit protection	continuous, auto recovery, hiccup				

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5. SAFETY & COMPLIANCE

Parameter	Conditions/description	Min	Typ	Max	Units
Isolation voltage	input to output, 1 min., <5mA	4,200			Vac
Safety approvals	certified to 62368: EN, UL certified to 60335: EN certified to 61558: EN				
Safety class	class II				
EMI/EMC	CISPR32/EN55032 CLASS B EN55014-1				
ESD	IEC/EN61000-4-2 Contact $\pm 8\text{KV}$ /Air $\pm 15\text{KV}$, perf. Criteria A IEC/EN55014-2, perf. Criteria A				
Radiated immunity	IEC/EN61000-4-3 10V/m, perf. Criteria A IEC/EN55014-2, perf. Criteria A				
EFT/burst	IEC/EN61000-4-4 $\pm 2\text{KV}$, perf. Criteria A IEC/EN61000-4-4 $\pm 4\text{KV}$ (See Fig.2 for recommended circuit), perf. Criteria A IEC/EN55014-2, perf. Criteria A				
Surge	IEC/EN61000-4-5 line to line $\pm 2\text{KV}$, perf. Criteria A IEC/EN61000-4-5 line to line $\pm 2\text{KV}$ /line to ground $\pm 4\text{KV}$ (See Fig.2 for recommended circuit), perf. Criteria A IEC/EN55014-2, perf. Criteria A				
Conducted immunity	IEC/EN61000-4-6 10 Vr.m.s, perf. Criteria A IEC/EN55014-2, perf. Criteria A				
Voltage dips and interruptions	IEC/EN61000-4-11 0%, 70%, perf. Criteria B IEC/EN55014-2, perf. Criteria B				
MTBF	MIL-HDBK-217F at 25°C	500,000			hours
RoHS	yes				

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6. ENVIROMENTAL

Parameter	Conditions/description	Min	Typ	Max	Units
Operating temperature		-40		85	°C
Storage temperature		-40		85	°C
Storage humidity		0		95	%

7. SOLDERABILITY

Parameter	Conditions/description	Min	Typ	Max	Units
Wave soldering	5~10 seconds max	255	260	265	°C
Hand soldering	3~5 seconds max	350	360	370	°C

8. SOLDERABILITY

Parameter	Conditions/description	Min	Typ	Max	Units
Dimensions	DIP: 69.50 x 39.00 x 24.00 chassis mount: 96.10 x 54.00 x 32.50 DIN-rail: 96.10 x 54.00 x 37.10				mm
Weight	DIP		100		g
	chassis mount		147		
	DIN-rail		190		
Case material	Black plastic, flame-retardant and heat-resistant (UL94V-0)				
Cooling method	natural convection				

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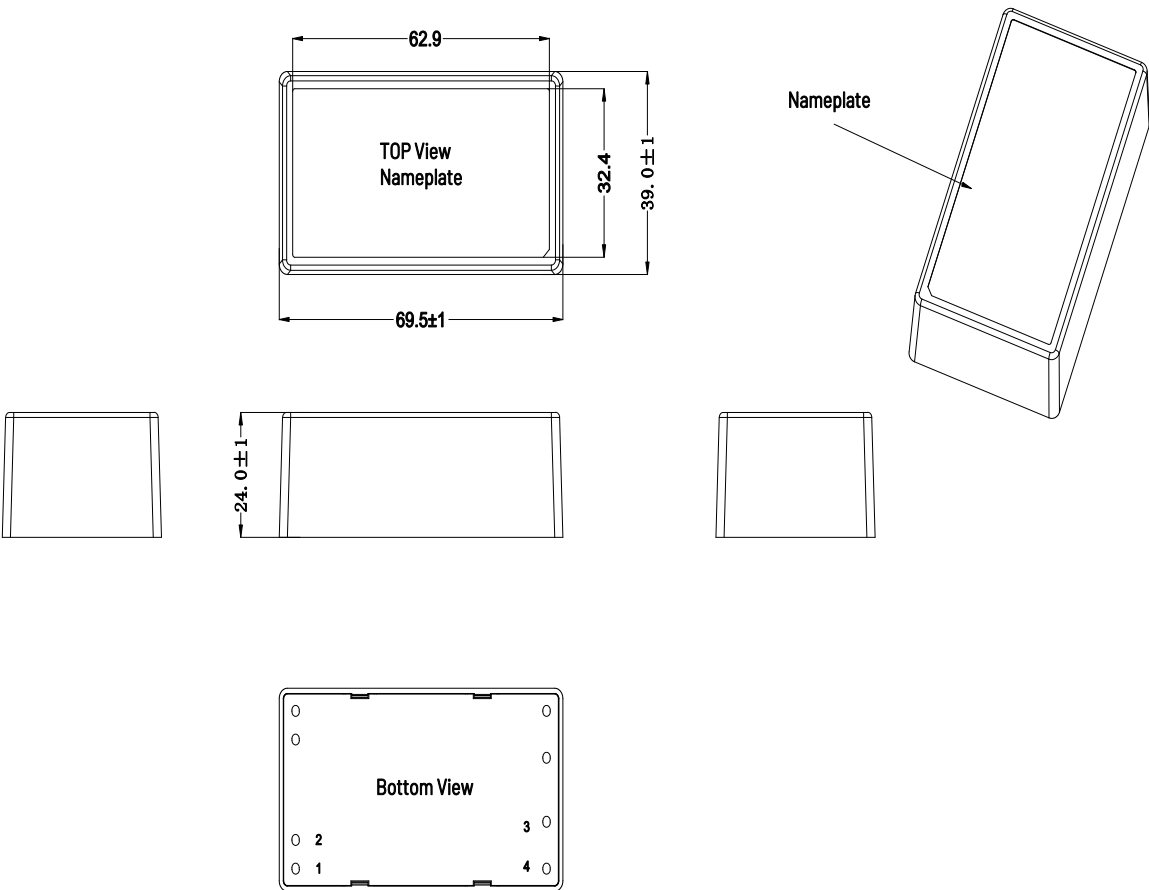
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9. MECHANICAL DRAWING

PIN CONNECTIONS	
Pin	Function
1	AC (L)
2	AC (N)
3	+V o
4	-V o



NOTE:

1. Case cover & chassis material PC BLACK (NO KTEC)
2. AC PIN MATERIAL: BRASS (NI PLATED)
3. PAHS 6P NP NOP REACH ROHS
4. Satin Finish
5. Top mold: JYM2506 Bottom mold: JYM2505

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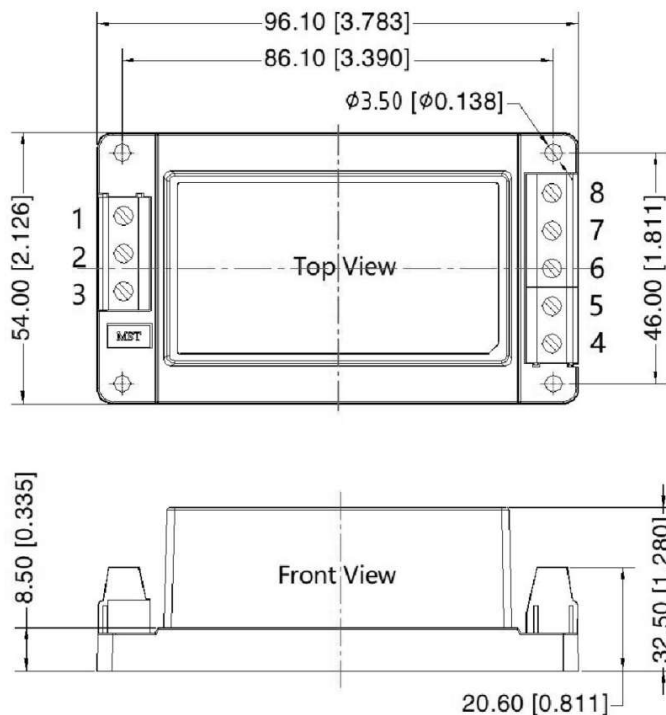
10. MECHANICAL DRAWING(CONTINUED)

Chassis mount

units: mm [inch]
 wire range: 24~12 AWG
 tightening torque: Max 0.4 N·m
 tolerance: ± 1.0 [± 0.039]

PIN CONNECTIONS	
PIN	Function
1	NC
2	AC(N)
3	AC(L)
4	+Vo
5	NC
6	NC
7	NC
8	-Vo

Note: NC = no connection

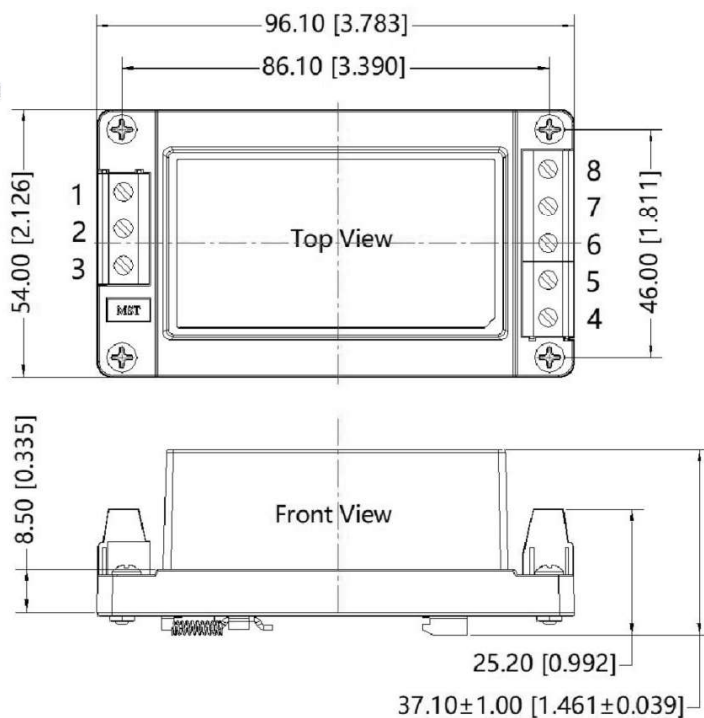


DIN-rail mount

units: mm [inch]
 wire range: 24~12 AWG
 tightening torque: Max 0.4 N·m
 mounting rail: TS35, must be connected to safety ground
 tolerance: ± 1.0 [± 0.039]

PIN CONNECTIONS	
PIN	Function
1	NC
2	AC(N)
3	AC(L)
4	+Vo
5	NC
6	NC
7	NC
8	-Vo

Note: NC = no connection



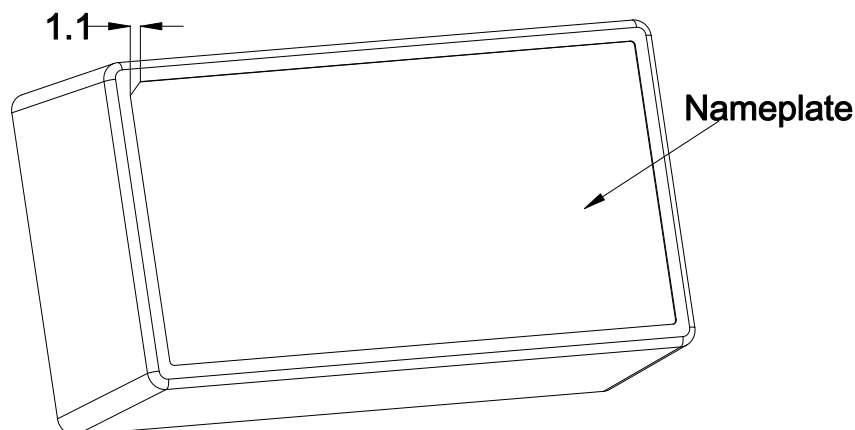
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11. NAME PLATE



Note: Laser

PXXYY (P=PAHS, 6P, NP XX=Week, YY=Year), use the actual production date.

SN (Data Matrix Code size: 5*5mm):

First code G(Ktec) + Production part number (Product code) + Ten yards of flow code SSSSSSSSSS (decimal) Total 19 codes

Example : GKS2514670000000001, GKS2514670000000002...GKS2514679999999999.

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12. APPLICATION DESIGN REFERENCE

Output Filtering Components:
C1 should be a ceramic capacitor and the TVS will help protect downstream electronics in the unlikely event of converter failure.

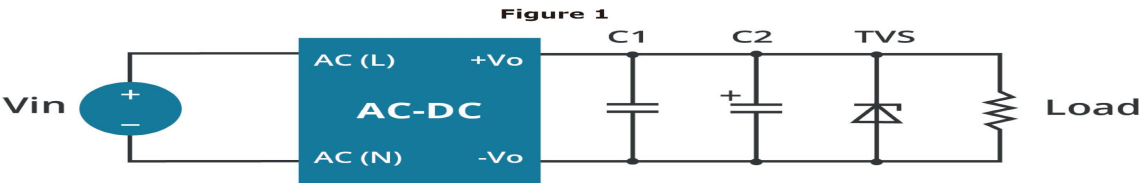


Table 1

Part No.	C1 (μF / V)	C2 (μF / V)	TVS
PSK-30D-3	1 / 100	10 / 50	SMBJ7.0A
PSK-30D-5		10 / 50	SMBJ7.0A
PSK-30D-9		10 / 50	SMBJ12A
PSK-30D-12		10 / 50	SMBJ20A
PSK-30D-15		10 / 50	SMBJ20A
PSK-30D-24		10 / 50	SMBJ30A
PSK-30D-48		10 / 63	SMBJ64A

Note: 2A / 300V slow-blow fuse integrated into unit.

Table1

Part No.	C1(μF)	C2(μF)	TVS
KSE-30W-033600	1 / 100	10 / 50	SMBJ7.0A
KSE-30W-050600		10 / 50	SMBJ7.0A
KSE-30W-090340		10 / 50	SMBJ12A
KSE-30W-120250		10 / 50	SMBJ20A
KSE-30W-150200		10 / 50	SMBJ20A
KSE-30W-240125		10 / 50	SMBJ30A
KSE-30W-480063		10 / 63	SMBJ64A

Note: 2A / 300V, slow-blow fuse integrated into unit.

13. EMC RECOMMENDED CIRCUIT

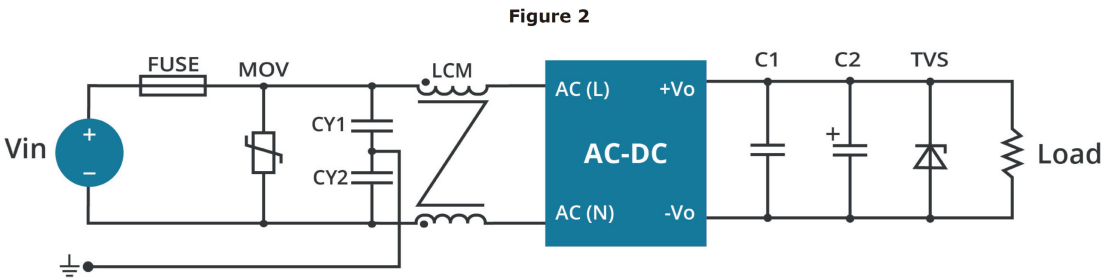


Table 2

Components	Recommended Value
FUSE	2 A/300 V, slow-blow, required
MOV	S14K350
CY1/CY2	1 nF/400 Vac
LCM	10 mH

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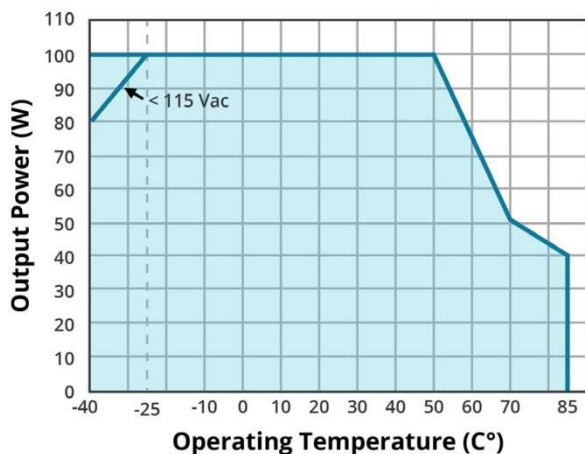
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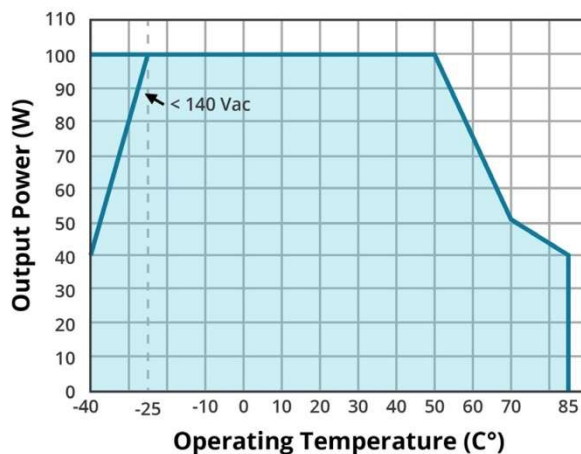


14. DERATING CURVES

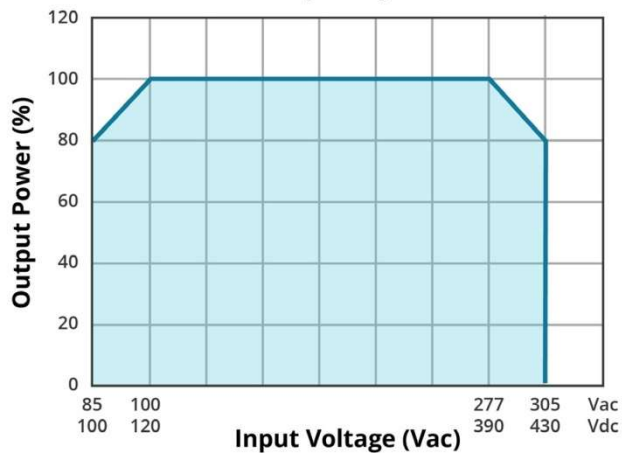
TEMPERATURE DERATING CURVE
3.3/9/12/15/24/48 Vdc output models



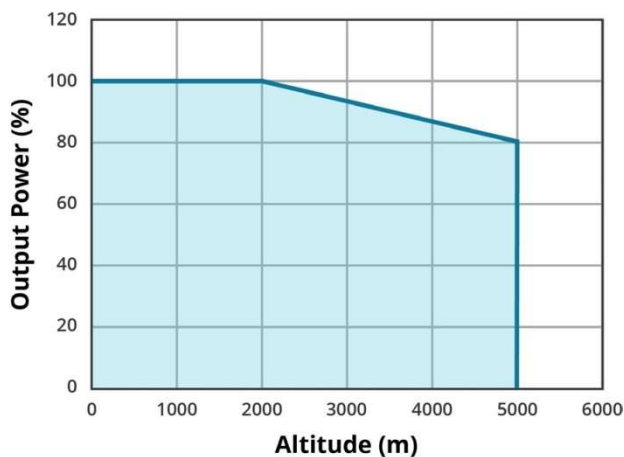
TEMPERATURE DERATING CURVE
5 Vdc output model



INPUT VOLTAGE DERATING CURVE
(25 °C)



ALTITUDE DERATING CURVE



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15. EFFICIENCY CURVES

