

FEATURES :

- Compliant to MIL-STD-704
- Transient suppression: 80V/50ms
- Sprike suppression: 600V/20 μ s
- Low line input 10V/15s
- Input voltage range:12V_{DC} to 80V_{DC}
- Output power range:4W to 50W
- Inhibit function
- Case operating temperature:-55 $^{\circ}$ C \sim +105 $^{\circ}$ C (M)
- Compatible with 16 \sim 40V_{DC} converters



DESCRIPTION :

WKPG-50 designed to extend DC/DC converter input bus voltage to meet system operation during voltage transients, spikes, cranking and drop out occurring in military or other systems. The design has been carried out with surface mount components and is manufactured in a fully automated process to guaranty high quality for aerospace, military and high-end industrial applications.

WKPG-50 features 3 modes of operations as follow:

Low line operation:When the input bus voltage drops down below the permanent input voltage (16V), the WKPG-50 operates in boost mode to provide an output voltage compatible with DCDC converter. When the input bus voltage drop down below 10V, all operation will be stopped.

Normal operation:Normal operation occurs between 16V to 40V input voltage, the module is then operating in steady transparency state.

Transient and spike operation: The module can sustain input transient up to 80V/50ms and spike up to 600V during 20 μ s with 50 ohms impedance.

ABSOLUTE MAXIMUM RATINGS:

Pin-Solder Temperature (10s): 300°C

Output power: 50W Storage Temperature range: -55°C~125°C (M/I)

Operating Temperature(T_C): -55°C~105°C(M)/-40°C~85°C(I)

THE ELECTRICAL CHARACTERISTICS:

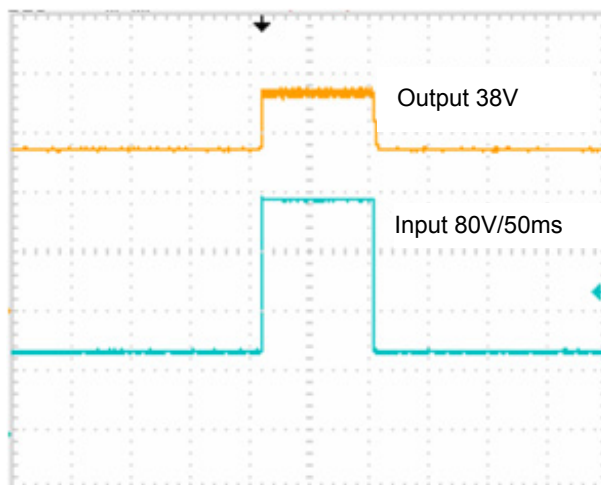
			WKPG-50			
Parameter	Test condition ¹⁾	Input condition	MIN	TYP	MAX	单位
Input voltage	Turn-on voltage	Full load	12	-	-	V
		Full load	16.0	-	17.2	
	Continuous input	Full load	18	-	37	
	Voltage drop-out	Full load	-	-	10V/15s	
	Voltage transient input	Full load	-	-	80V/50ms 间隔大于 1min	-
	Voltage spike input	Full load	-	-	600V/20μs	
Input current	Inhabit mode	-	-	-	50	mA
Output voltage	Drop-out input	(10~18)V _{DC}	-	20	-	V
	Continuous input	(18~37)V _{DC}	-	(V _{in} -0.6)V	-	
	Transient input	(37~80)V _{DC}	-	37.5	40	
Output power	-	(10~18)V _{DC}	-	-	30	W
	-	(18~37)V _{DC}	-	30	50	
	-	Transient input	-	-	30	
efficiency	Full load	28V Full load	95	-	-	%
Under voltage lock out ²⁾	No load~full load	-	8.8	9.1	9.5	V
Start up time	Full load	All input range	-	-	30	ms
ON/OFF			Pin ON/OFF connect to GND, module operation off			
Insulation resistance			≥100MΩ@500V _{DC} (input-case; output-case)			

Note:

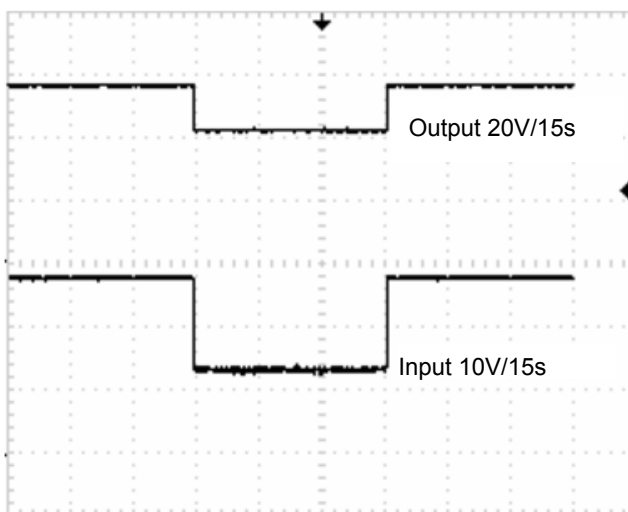
- 1) Unless otherwise specified, T_A=25°C, V_{IN} = 28V_{DC}, 100% load.
- 2) Guaranteed by design.

TYPICAL PERFORMANCE CURVES:

Transient response at 80V/50ms

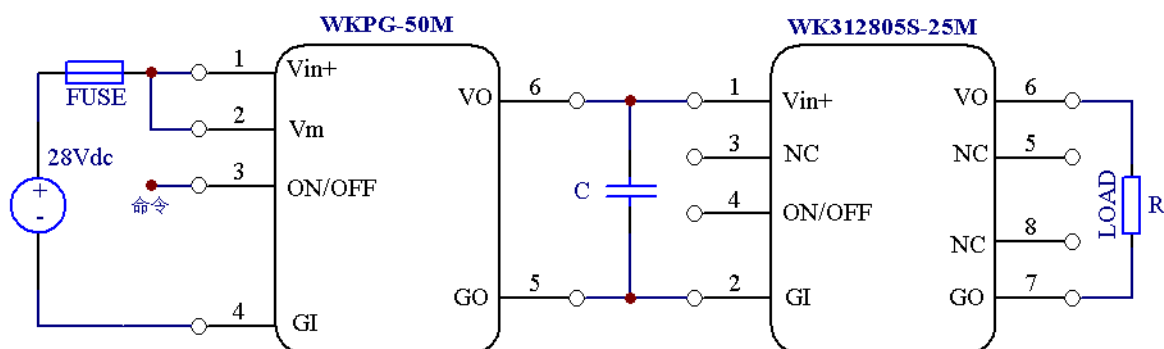


Brown-out response at 10V/15s



APPLICATION NOTE:

- Typical connection shown as below:



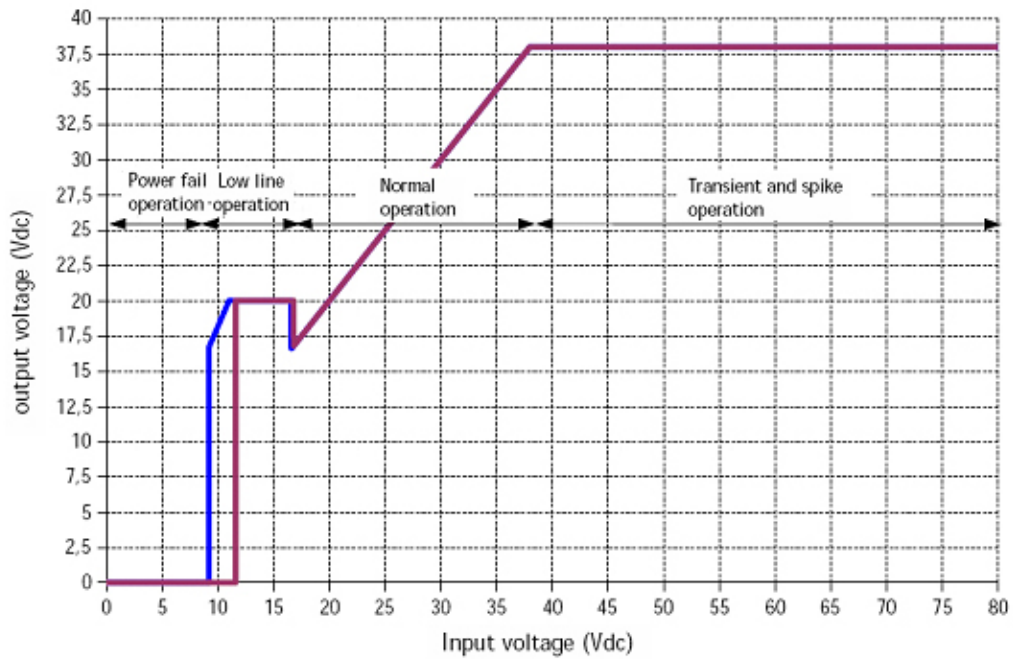
Note: C - optimize module, 30W output power use 47 μ F Capacitor.

ON/OFF: pin 3 connect to GND, module stop working.

● **Pin 2 show**

Pin 2 set voltage of boost mode, unless specified, connect to input pin.

● **OUTPUT CURVES**



Warning:

Do not short module output or use big capacitor load, or destroy the module. and if have hold up time need, use hold-up module.

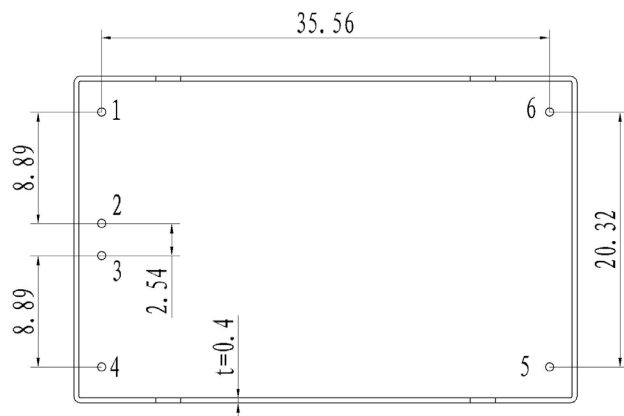
Guaranteed input power enough when start with low line input, or destroy device.

ENVIRONMENTAL SCREENING:

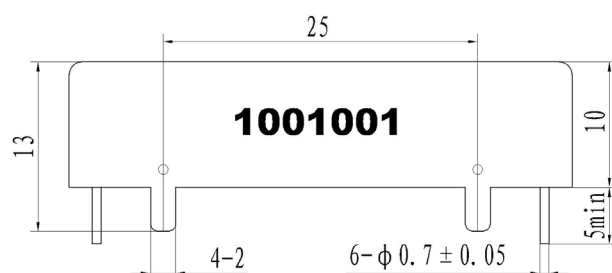
Class	NO.	Test Items	Methods	Request	Condition
I	1	Burn-in	---	100%	$T_C=85^{\circ}\text{C}$ 48h
M	1	Environmental Stress Screening (ESS)	MIL-STD-2164	100%	-
	2	Burn-in	---	100%	$T_C=105^{\circ}\text{C}$ 168h

MECHANICAL SECIFCATIONS

Volume: ≤12cm³ weight: ≤30g material: 10# steel



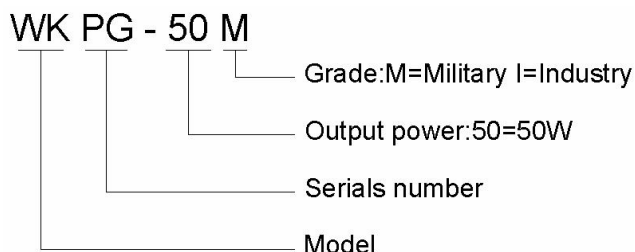
PIN	PIN FUNCTIONS
1	+Input (Vin+)
2	Input measure (Vm)
3	ON/OFF
4	-Input (Vin-)
5	-Output (Vo-)
6	+Output (Vo+)



UNITS: mm
TOLERANCE: ± 0.2mm.

ORDERING INFORMATION:

MODEL NO SPECIFICATION:



Mark specification:

Serial Number 1001 001, example indicates this product has been manufactured in the 1th week of 2010 and the sequence number is 001.