FEATURES

1. Ultra-wide input voltage range (2:1)
2. Efficiency up to 90%
3. Isolation voltage 1500VDC
4. Input undervoltage protection, output short circuit, overcurrent, overvoltage protection, overtemperature protection
5. Operating temperature range: -40° C to +85° C
6. International standard 1/16 brick
7. Compliant with UL/EN62368 standards

RoHS CE 3 years Warranty

Selection Guide

Product Model	Input Voltage (Range) VDC	Output Voltage VDC	Output Current @Full Load mA	Output Efficiency Min/Typ %	Capacitive Load (Max) μF
GT4812SBO-60WR3	48 (36~60VDC)	12	5000	88/90	2000

Input Specifications

Parameter	Condition		Min	Typ	Max	Unit
Input Voltage Range			36	48	60	VDC
Input Current	Vin=36VDC, Full Load		--	1920	2020	mA
No-load Power Consumption	Vin=48V, Io=0A, 25℃		--	--	0.5	W
Surge Voltage	For 36~60VDC input series		--	--	80	VDC
Input Undervoltage Protection	Protection start		29	32	34	VDC
	Protection release		31	34	36	VDC
Start-up Time	Nominal input voltage & resistive load		--	30	--	mS
Input Filter Type			Pi type			
Hot Plug			Unavailable			
Remote Control Pin (Ctrl)	Negative logic control	Module ON	Ctrl connected to GND or low level (-0.3~0.8VDC)			
		Module OFF	Ctrl pin open or connected to TTL high level (3.5~12VDC)			
		Ctrl Control Current	--	0.4	1	mA
		Input Current at Shutdown	--	4	10	mA

Note: The voltage of the Ctrl control pin is relative to the input pin GND.

Output Specifications

Parameter	Condition		Min	Typ	Max	Unit
Rated Output Voltage			--	12	--	VDC
Output Voltage Accuracy	Full load range, nominal input voltage		--	±1	±3	%
Line Regulation	Rated load, full input voltage range		--	±0.2	±0.5	%
Load Regulation	Rated input voltage, 5%～100% load		--	±0.5	±1	%
Transient Recovery Time	25% load step change, nominal input voltage		--	300	--	μs
Transient Response Deviation	25% load step change, nominal input voltage		--	--	±5	%
Temperature Coefficient	Full load		--	--	±0.03	%/℃
Ripple & Noise	20MHz bandwidth, nominal input voltage, probe contact method, external 10uF tantalum capacitor and 0.1uF ceramic capacitor at output	0%～5% load	--	--	600	mVp-p
		5%～100% load	--	--	200	mVp-p
Output Overcurrent Protection	Hiccup mode, auto-recovery		110	150	190	%Io
Output Overvoltage Protection	Constant voltage mode		110	120	135	%Vo
Short Circuit Protection	Hiccup mode		Continuous, auto-recovery			
Overtemperature Protection	Measured at RT point		110	120	140	℃

General Specifications

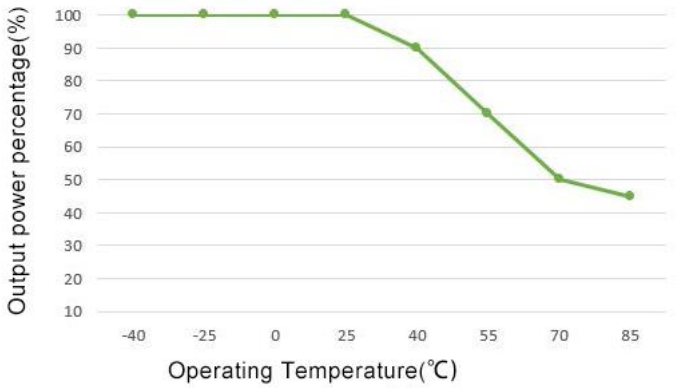
Parameter	Condition	Min	Typ	Max	Unit
Isolation Voltage	Input-Output, leakage <1mA, test time 1 minute	1500	--	--	VDC
Isolation Resistance	Input-Output, insulation voltage 500VDC	1000	--	--	MΩ
Isolation Capacitance	Input-Output, 100kHz/0.1V	--	2200	--	pF
Operating Temperature	Product operates within derating curve range	-40	--	+85	℃
Storage Temperature		-55	--	+125	℃
Storage Humidity	Non-condensing	5	--	95	%RH
Pin Soldering Temperature	Wave soldering (soldering time: 5~10s)	+255	+260	+265	℃
	Manual soldering (soldering time: 3~5s)	+350	+360	+370	℃
Switching Frequency	PWM mode	--	240	--	kHz
MTBF	MIL-HDBK-217F @ 25℃	1000	--	--	K hours

Mechanical Specifications

Size	No heat sink	33.00mm × 22.80mm ×9.20mm
Weight	No heat sink	13.0g(Typ.)

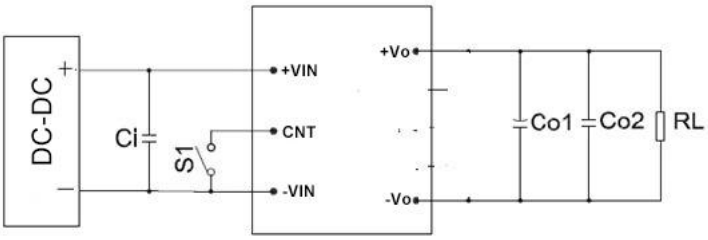
Characteristic Curves

Temperature Derating Curve(Vin=48V)



Design References

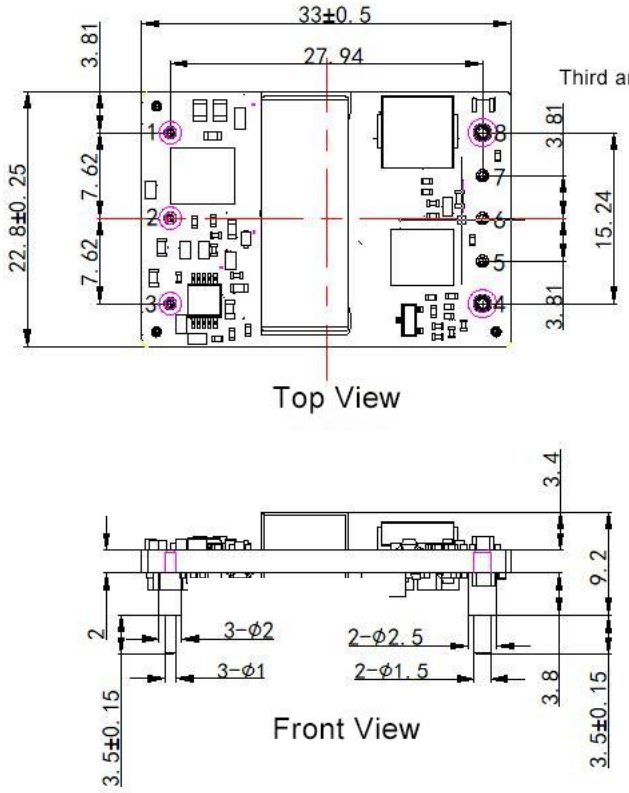
Application circuit

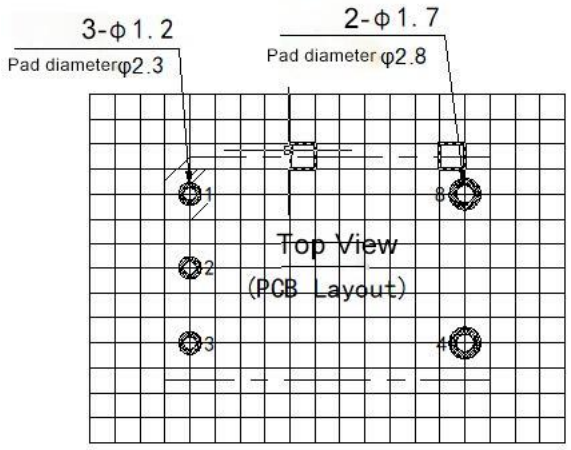


Component	Recommended Value
Ci	100μF/100V Electrolytic capacitor
Co1	330μF/25V Tantalum capacitor / Low impedance electrolytic capacitor
Co2	1μF/25V Ceramic capacitor

Note: Appropriate electrolytic capacitors can be added at the output according to customer requirements, but the maximum capacitance per output should not exceed 2000μF.

Dimensions and Recommended Layout





Note:

Size unit: mm

Terminal diameter tolerance: ±0.10mm

Unmarked tolerance: ±0.50 mm

Pin definition

Pin	Symbol	Function
1	+Vin	Positive input terminal
2	Ctrl	Control pin
3	-Vin	Negative input terminal
4	-Vo	Negative output terminal
5	NP	No pin
6	NP	No pin
7	NP	No pin
8	+Vo	Positive output terminal

Note:

1. If the product works under the minimum required load, it cannot guarantee that the performance of the product complies with all the performance indicators in this manual;
2. The maximum capacitive load is tested under the input voltage range and full load condition;
3. Unless otherwise stated, all indexes in this manual are measured at Ta=25℃, humidity <75%RH, nominal input voltage and rated output load;
4. All index testing methods in this manual are based on the enterprise standards of the company;
5. Our company can provide product customization, specific needs can directly contact our technical staff;