

Features

- Wide 4 : 1 Input Voltage Range (9~36V,18~75V)
- Remote On/Off
- Input / Output Isolation Voltage: 1.5k VDC
- Operating Temperature Range: -55°C to +95°C(with derating)
- Output Short Circuit Protection:
Hiccup & Auto Recovery
- Over Voltage Protection: Clamp Mode
- Over Temperature Protection
- Lead Free Design, RoHS Compliant
- Adjustable Output Voltage
- Customer Design Available



Description

The MYC60W Series are isolated 60W DC/DC converters. Designed with highly efficiency, allow the operating temperature range of these units to be -55°C to +95°C (with derating) in a five-sided shielded metal case. Further features include wide 4 : 1 input voltage range, remote on/off control, short-circuit protection, over voltage protection and over temperature protection.

Applications

These converters are well suitable for battery operated equipment, measurement equipment, telecom, wireless network, Industry control system, everywhere where isolated, tightly regulated voltages and compact size are required.

Technical Specification

All specifications are typical at nominal input, full load and 25°C unless otherwise stated.

Model Number	Input Voltage Range	Output Voltage (Vdc)	Output Current (mA)		Input Current (mA)		Eff. ⁽²⁾ (%)	Capacitive Load, max. (uF)
			Min. Load ⁽¹⁾	Full. Load	No Load	Full Load		
MYC60-24S1W	9~36V Nominal:24VDC	5	50	12000	110	3205	82	1000
MYC60-24S2W		12	50	5000	110	3086	85	330
MYC60-24S5W		24	90	2500	110	3086	85	100
MYC60-48S1W	18~75V Nominal:48VDC	5	50	12000	50	1582	83	1000
MYC60-48S2W		12	50	5000	50	1524	86	330
MYC60-48S5W		24	90	2500	50	1524	86	100

Input Specifications		
Input voltage	24V nominal input	9-36Vdc
	48V nominal input	18-75Vdc
Input filter		Pi type
Input surge voltage (100ms max.)	24V input	50Vdc
	48V input	100Vdc
Input reflected ripple current	Nominal Vin and full load	200mA _{p-p} typ.
Start up time	Nominal Vin and constant resistive load	150ms typ.
Remote ON/OFF	Converter: ON	Open or $3.5V < V_r < 12V$
	Converter: OFF	Short ⁽³⁾ or $0V < V_r < 1.2V$
Sourcing current of remote control pin	Nominal Vin	< 0.2 mA
Idle input current (at Remote OFF state)	Nominal Vin	< 20 mA
Environmental Specifications		
Operating ambient temperature		-55°C to +95°C (with derating)
Maximum case temperature		+105°C
Storage temperature range		-55°C to +125°C
Relative humidity		95% RH max.
Temperature coefficient		±0.02% / °C max.
Output Specifications		
Output power		60 Watts max.
Voltage accuracy	Full load and nominal Vin	±1%
Minimum load		See table
Line regulation	LL to HL at full load	±0.5%
Load Regulation	25% load to full load	±0.5%
Ripple and Noise (20MHz Bandwidth)	5V _{out} & 12V _{out} models	100mV _{p-p} max.
	24V _{out} models	200mV _{p-p} max.
Over voltage protection (Zener Diode Clamp)	5V _{out} models	6.2V
	12V _{out} models	15V
	24V _{out} models	27V
Capacitive load		See table
Over load protection	% of full load at nominal input	110% min.
Thermal shutdown		110°C typ.
Short circuit protection		Hiccup, automatic recovery
Transient response settling time	50% load step change	7.7ms typ.
Transient response over shoot	di/dt=0.8A/μs	≤ ±8% of V _o

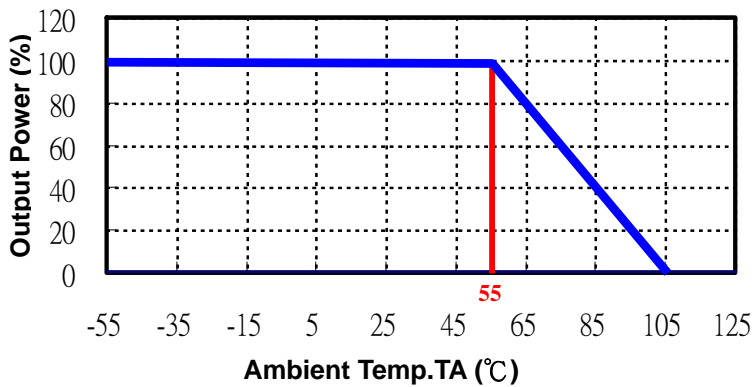
General Specifications

Efficiency	Nominal input	See table
Isolation voltage	Input to output	1500VDC
Isolation resistance	500VDC	10 ⁹ Ohms min.
Isolation capacitance		250pF typ.
Switching frequency		300kHz typ.
Reliability, calculated MTBF		7.18 × 10 ⁵ Hrs
Cooling	Forced-air cooling	1.5m/s

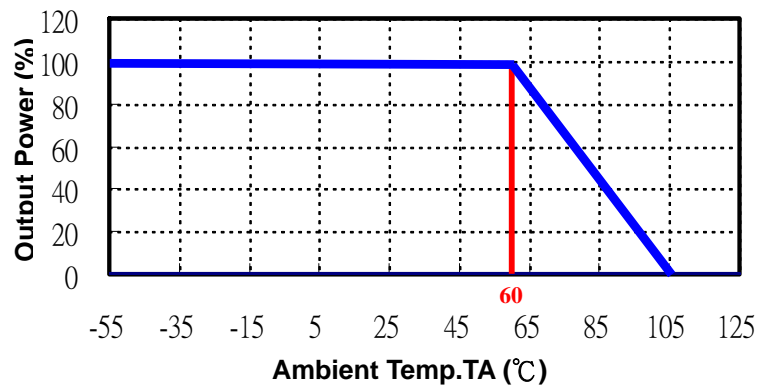
Physical Specifications

Case material		Aluminum
Potting material		Silicon rubber (UL94V-0)
Dimensions		2.40 × 2.28 × 0.5 Inch (61.0 × 57.9 × 12.7 mm)
Weight		97g (3.42oz) (typical)
Soldering temperature	Lead-free wave soldering	260°C/10Sec (maximum)

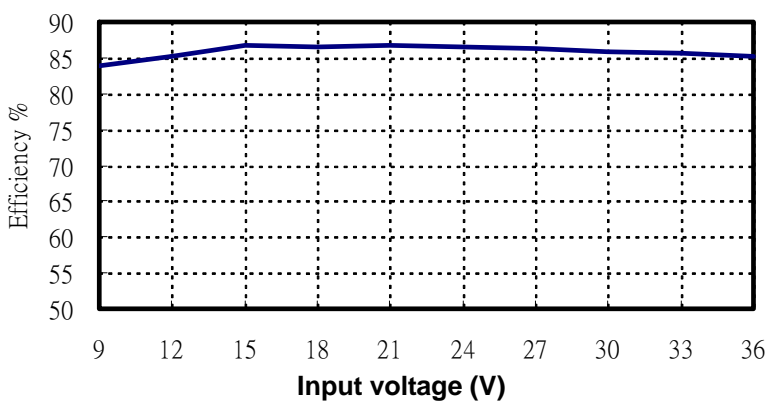
MYC60-24S5W
Power Derating Curve without Heatsink



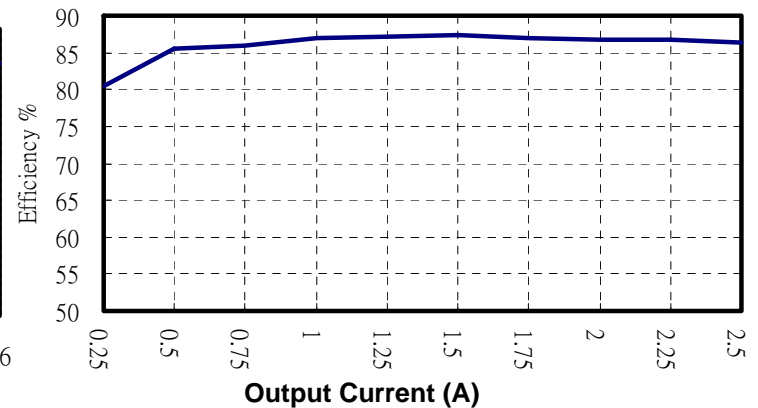
MYC60-24S5W
Power Derating Curve with Heatsink



MYC60-24S5W
Input voltage vs. Efficiency



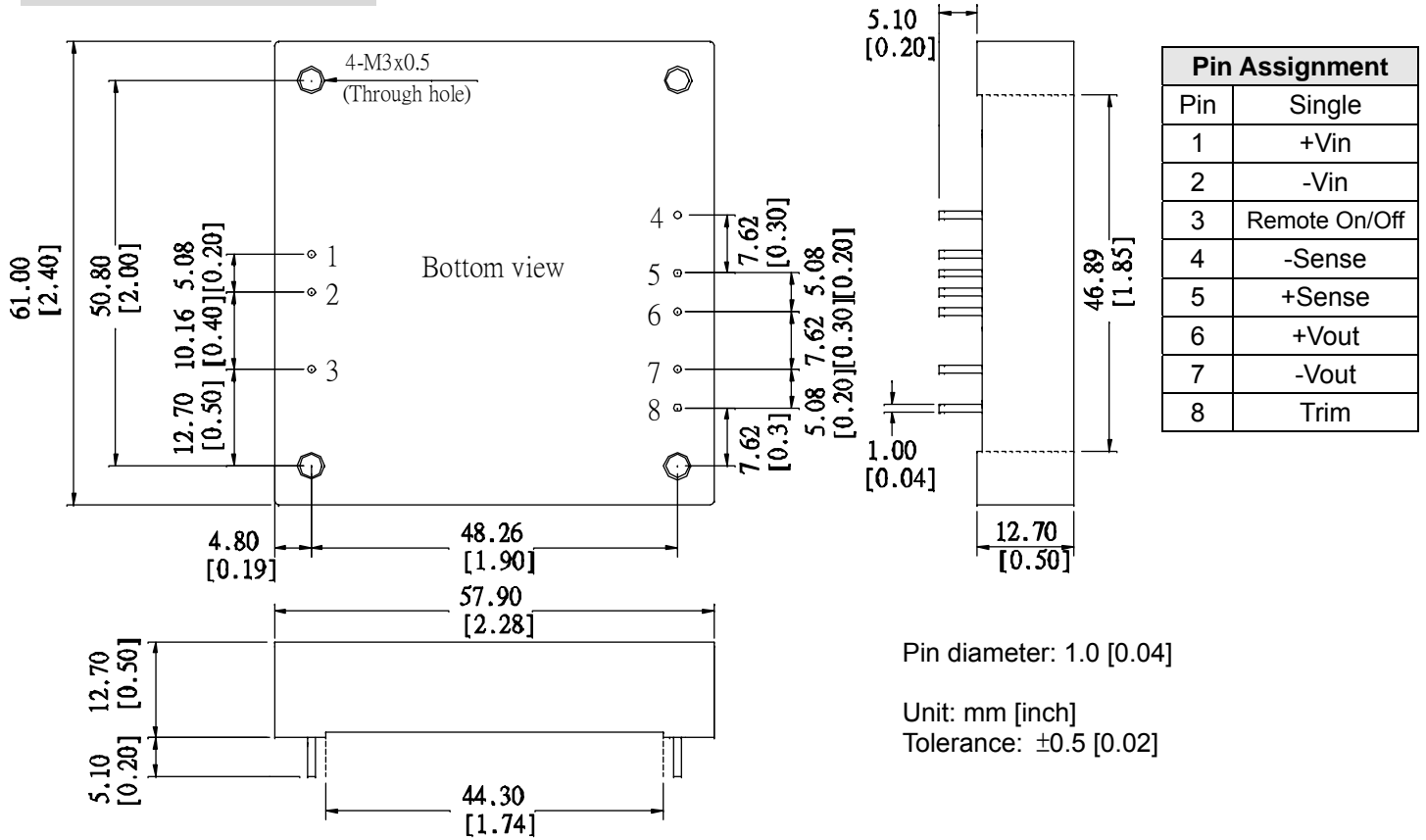
MYC60-24S5W
Output Current vs. Efficiency



Note

1. Io below this value will not damage these converters, however, they may not meet all listed specifications.
2. Typical value, tested at nominal input and full load.
3. Short to -Vin (Pin 2).

Mechanical Dimensions



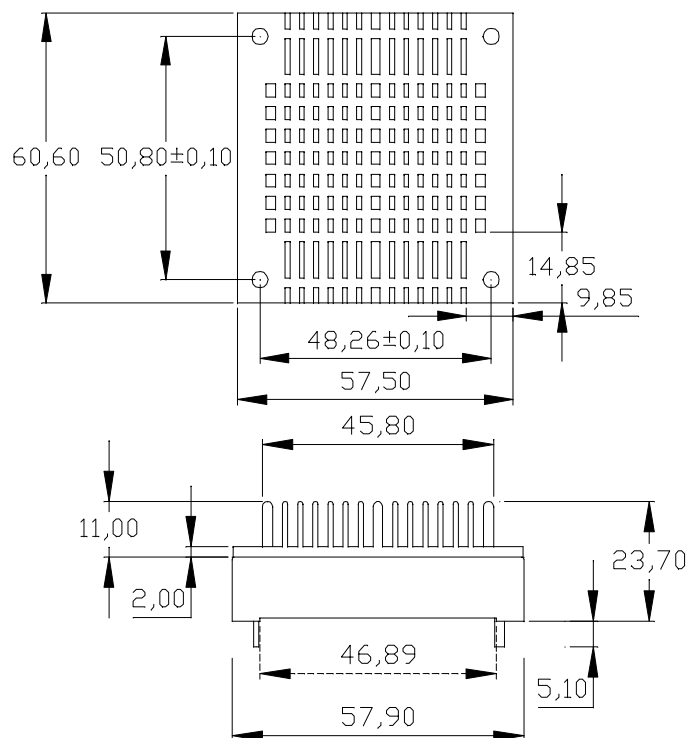
Heat-sink

Material: Aluminum

Weight: 35g (1.23oz) (without converter)

Note:

For volume orders, converters will be supplied with heat-sink already mounted. Please contact factory for quotation.



Remote Sense Application circuit

The Remote Sense function is used to compensate for the voltage drop incurred when the load is located physically far away from the DC/DC converter providing its power. The Remote Sense pins are connected as close to the load as possible. The DC/DC converter's regulation specification is maintained across the points where the Remote Sense wires are connected at the load. This will remove the effect of the voltage drop caused by the resistance of the wires used to conduct the power from the DC/DC converter to the load. This is represented by R_{CL1} and R_{CL2} . With the use of Remote Sense, the effects of R_{CL1} and R_{CL2} are eliminated.

If the Remote Sense function is not used, the **+Sense** has to be connected to **+Vout** and the **-Sense** has to be connected to **-Vout** as close to the DC/DC converter as possible.

