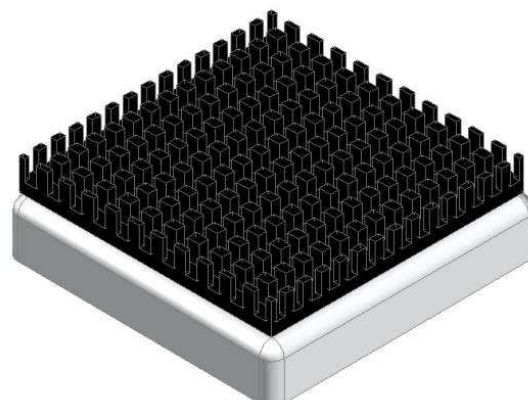




Isolated DC-DC Converters SBXC60-24S2WHS

Features

- Wide 4 : 1 Input Voltage Range
- High Power Density
- High Efficiency
- Operating Temperature Range: -40°C to +85°C
- Output Short Circuit Protection:
Hiccup, continuous & Auto Recovery
- Output Over Voltage Protection:
- Over Temperature Protection
- Fixed Switching Frequency
- Input/ Output Isolation 1.5 KVdc
- Shielded Metal Case with Insulated Baseplate
- Lead Free Design, RoHS Compliant
- Industry Standard Pinout
- Adjustable Output Voltage



Applications

- Distributed power system
- Telecommunication application
- Battery powered equipment
- Industrial application
- Process control equipment
- Transportation equipment

Input Specifications

Input voltage range		9~36Vdc
Under voltage shutdown	Full Load	8Vdc (typical)
Input current	Vin=24Vdc and no Load	100mA (typical)
Input current	Vin=24Vdc and full Load	2976mA (typical)
Input current	Vin=24Vdc and output shorted	10mA (typical)
Remote ON/OFF	Converter: ON	Open or 3.5V < Vr < 12V
	Converter: OFF	Short ⁽²⁾ or 0V < Vr < 0.7V
Sourcing current of remote control pin	Nominal Vin	< 0.2mA
Idle input current (at Remote OFF state)	Nominal Vin	< 12mA

Output Specifications

Output voltage		12 Vdc
Output voltage accuracy	Vout=11.88 ~ 12.12Vdc	±1%
Maximum Load		5A
Minimum Load		0A
Maximum capacitive load		4700uF (maximum)
Efficiency	Vin=24Vdc and full load	88% (typical)
Ripple / Noise	20MHz bandwidth.	80mVp-p (maximum)
Temperature coefficient		±0.02%/°C (maximum)
Output short circuit protection	Automatic recovery	Hiccup, Continuous
Output over voltage protection		15V (typical)

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Line regulation	LL to HL at full load	±0.5% (maximum)
Load regulation	25% load to full load	±0.5% (maximum)

Dynamic Characteristics

Transient response over shoot	di/dt=0.8A/μs	≤ ±5% of Vo
Transient response settling time	50% load step change	180μs (typical)
Start-up time	Nominal Vin and full load	60msec (typical)
Switching frequency		300kHz (typical).

General Specifications

Reliability, calculated MTBF		≥ 8.88×10 ⁵ hours
Operating ambient temperature	With derating	-40°C ~ +85°C
Maximum case surface temperature		100°C
Storage temperature range		-55°C ~ +125 °C
Relative humidity		95% RH (maximum)
Isolation voltage	Input to output	1500Vdc
Isolation capacitance	Input to output	1200pF (typical)
Isolation resistance	Input to output (500Vdc)	10 ⁹ Ω (minimum)
Cooling	Free air convection	

Physical Specifications

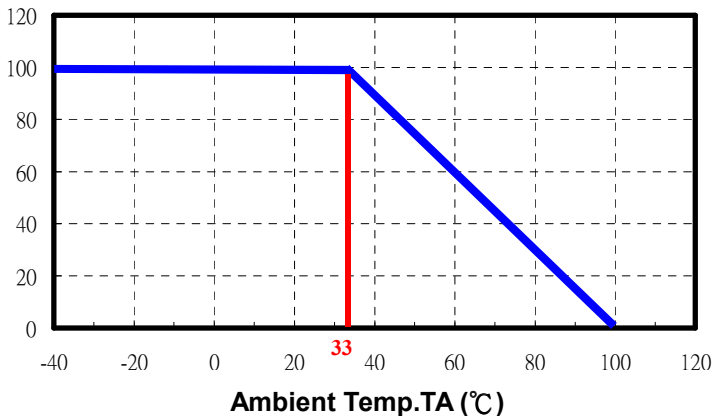
Case material		Nickel-coated copper
Base material		FR4 PCB
Potting material		Silicon rubber (UL94V-0)
Dimensions		2.00 × 2.00 × 0.50 Inch (50.8 × 50.8 × 12.6 mm)
Weight		103g (3.63oz) (typical)
Soldering temperature	Lead-free wave soldering	260°C/10Sec (maximum)

Absolute Maximum Ratings

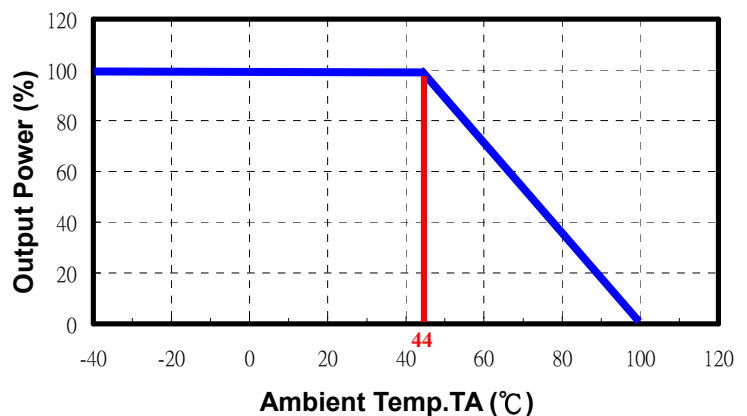
Input surge voltage	100msec.	50Vdc
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Performance Curves

Power Derating Curve (Without Heatsink)

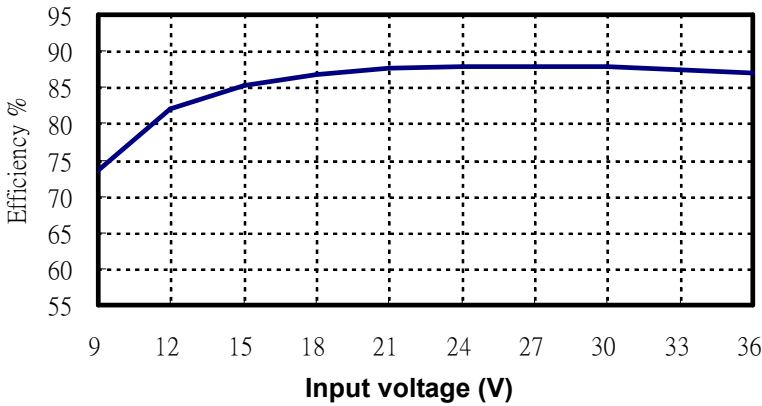


Power Derating Curve (With Heatsink)

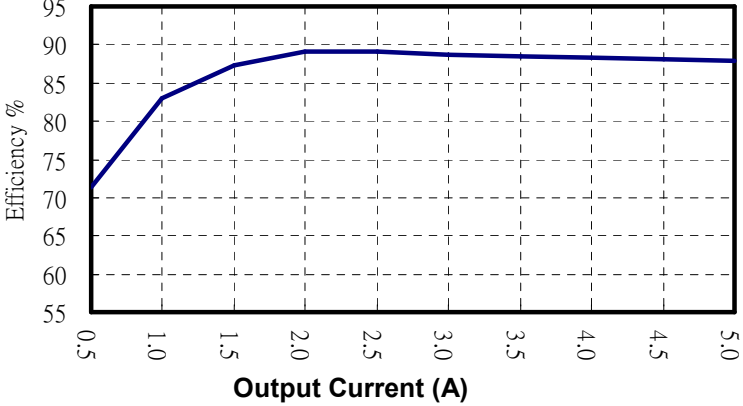


Isolated DC-DC Converters SBXC60-24S2WHS

Input voltage vs. Efficiency



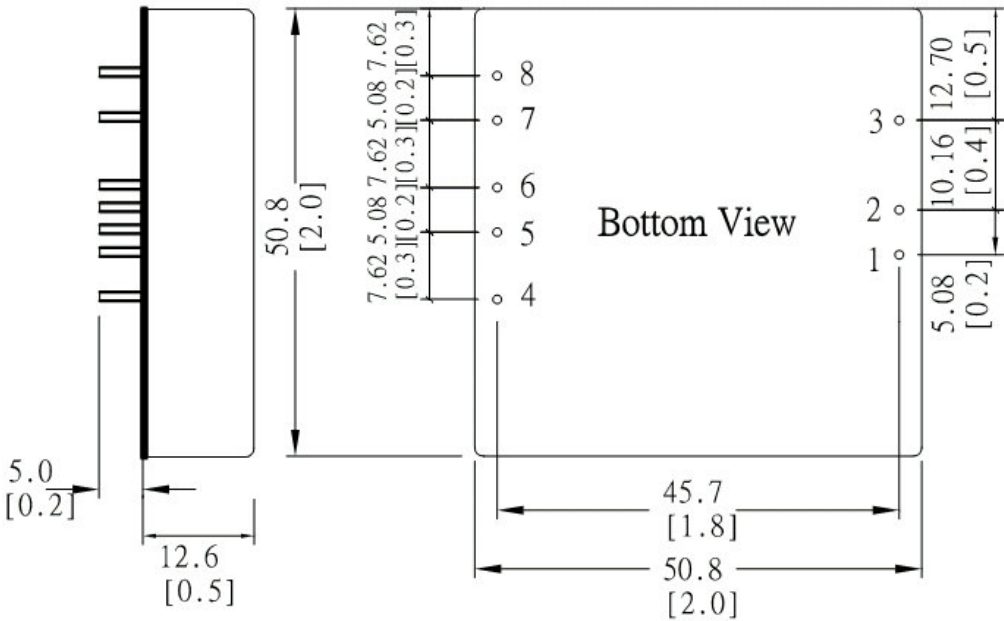
Output Current vs. Efficiency



Note

1. Typical value, tested at nominal input and full load.
2. Short to -Vin (Pin 2).

Mechanical Dimensions



Pin Assignment	
Pin	Single
1	+Vin
2	-Vin
3	Remote On/Off
4	-Sense
5	+Sense
6	+Vout
7	-Vout
8	Trim

Unit: mm [inch]
Tolerance: ±0.5 [±0.02]

Heat-sink

Material: Aluminum
Weight: 19g (0.67oz) (without converter)

