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BRN6W Series

6W, Isolated DC-DC Converters



Features

- Wide 4:1 Input Voltage Range
- Remote On/Off
- Input / Output Isolation: 1500 VDC
- Operating Temperature Range: -40°C to +100°C
- Output Short Circuit Protection:
- Over Voltage Protection: Clamp Mode
- Shielded Metal Case with Insulated Baseplate
- Lead Free Design, RoHS Compliant
- Standard 1”X1” Package
- IEC/EN 62368-1 Safety Approval

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.

Models and Ratings

Model Number	Input Voltage Range (VDC)	Output Voltage (VDC)	Output Current (mA)		Input Current (mA)		Efficiency typ. (%)	Capacitive Load max. (µF)
			Min. Load	Full Load	No Load	Full Load		
BRN6-24S0W	9 - 36 24V nominal	3.3	30	1450	8	268	78	1000
BRN6-24S1W		5	0	1200	8	329	80	680
BRN6-24SAW		9	0	667	11	320	82	247
BRN6-24S2W		12	0	500	10	317	83	220
BRN6-24S3W		15	0	400	10	318	83	147
BRN6-24S5W		24	0	250	15	318	83	47
BRN6-24D1W		±5	±10	±600	10	328	80	330 / 330
BRN6-24D2W		±12	0	±250	12	319	82	100 / 100
BRN6-24D3W		±15	0	±200	15	322	82	68 / 68
BRN6-48S0W	18 - 75 48V nominal	3.3	30	1450	5	134	78	1000
BRN6-48S1W		5	0	1200	6	164	80	680
BRN6-48SAW		9	0	667	6	158	83	247
BRN6-48S2W		12	0	500	6	157	83	220
BRN6-48S3W		15	0	400	5	154	85	147
BRN6-48S5W		24	0	250	8	158	83	47
BRN6-48D1W		±5	±10	±600	5	164	80	330 / 330
BRN6-48D2W		±12	0	±250	7	158	83	100 / 100
BRN6-48D3W		±15	0	±200	8	158	84	68 / 68

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Input Specifications		
Input voltage range		See Models and Ratings table
Input filter		Pi Type
Input surge voltage (100ms max.)	24Vin models	50 VDC max.
	48Vin models	100 VDC max.
Input reflected ripple current	Nominal Vin and full load	170 mAp-p max.
Remote ON/OFF	Converter: ON	Open circuit or 3.5 to 12 VDC
	Converter: OFF	Short circuit or 0 to 1.2 VDC
		Refer to 'Remote' and '-Vin' pin
Off idle input current	Nominal Vin	2.5 mA max.
Remote pin input current	Nominal Vin	0.2 mA max.
Output Specifications		
Output power		6 Watts max.
Voltage accuracy	Full load and nominal Vin	±2% max.
Minimum load		See Models and Ratings table
Line regulation		±0.5% max.
Load regulation	25% load to full load	
	Single output models	±0.5% max.
	Dual output models	±0.5% max.
Cross regulation	25% / 100% asym. load	±5% max.
Ripple and noise	20MHz bandwidth	80 mVp-p max.
Over voltage protection (Zener Diode Clamp)	3.3Vout models	3.9V
	5Vout models	6.2V
	9Vout models	11V
	12Vout models	15V
	15Vout models	18V
	24Vout models	27V
Capacitive load		See Models and Ratings table
Overload protection	Nominal Vin	110% min. of full load
Short circuit protection		Continuous, automatic recovery
Transient recovery time	50% load step change	550 µs max.
Transient response deviation	di/dt = 0.8 A/µs	±5% max.

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General Specifications		
Efficiency	Nominal Vin and full load	See Models and Ratings table
Switching frequency	PWM	300 kHz typ.
Start-up time	Nominal Vin and constant resistive load	530 ms max.
Isolation voltage	Input to output	1500 VDC min.
	Input/output to case	1500 VDC min.
Isolation resistance	500 VDC	1000 MΩ min.
Isolation capacitance		280 pF typ.
Reliability, calculated MTBF		9.64×10^5 h
Operating ambient temperature	With derating	-40°C to +100°C
Maximum case temperature		+105°C max.
Storage temperature range		-55°C to +125°C
Relative humidity		95% RH max.
Temperature coefficient		±0.02% / °C max.
Cooling		Natural convection
Physical Specifications		
Case material		Nickel-coated copper
Base material		FR4 PCB
Pin material		Copper alloy
Pin Foundation Plating		Nickel
Pin Surface Plating		Tin
Potting material		Silicone (UL 94 V-0 rated)
Dimensions		1.0 × 1.0 × 0.4 Inch
		25.4 × 25.4 × 10.2 mm
Weight		17 g typ.

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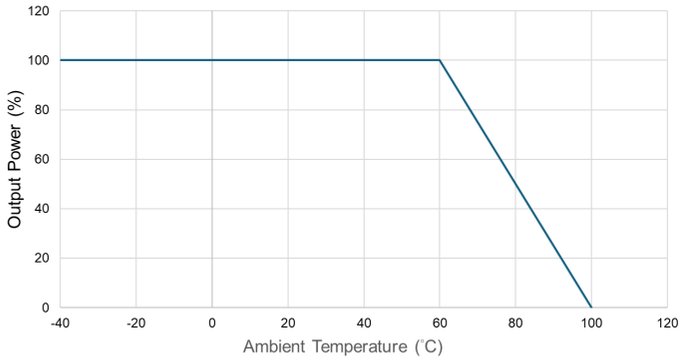
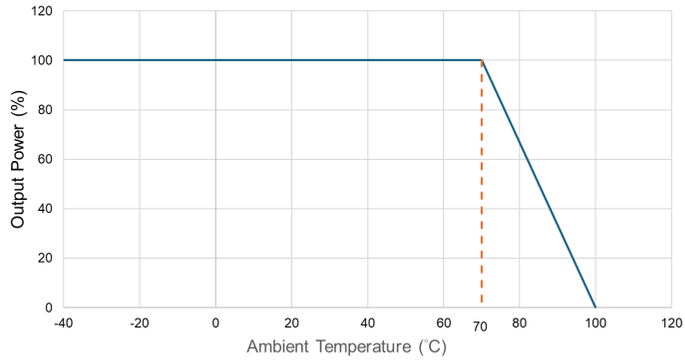
Characteristic Curves

Power Derating Curve

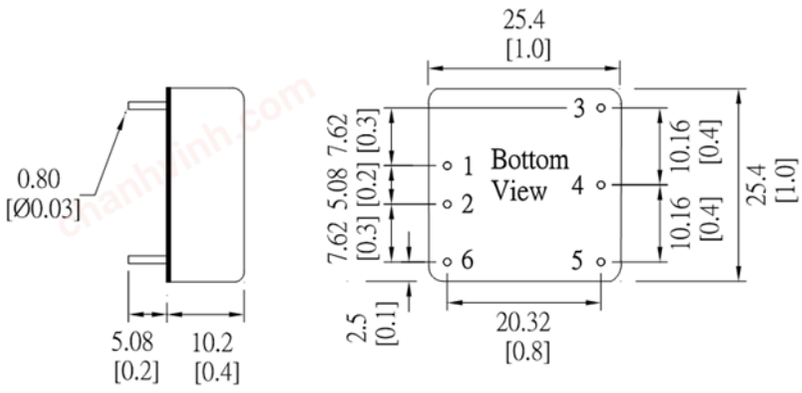
3.3Vout and 5Vout models



Other models



Mechanical



Pinout		
PIN	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout
6	Remote On/Off	Remote On/Off

Dimensions in mm [inch]
Tolerances: ±0.5 [±0.02]
Pin dimension tolerances: ±0.10 [±0.004]

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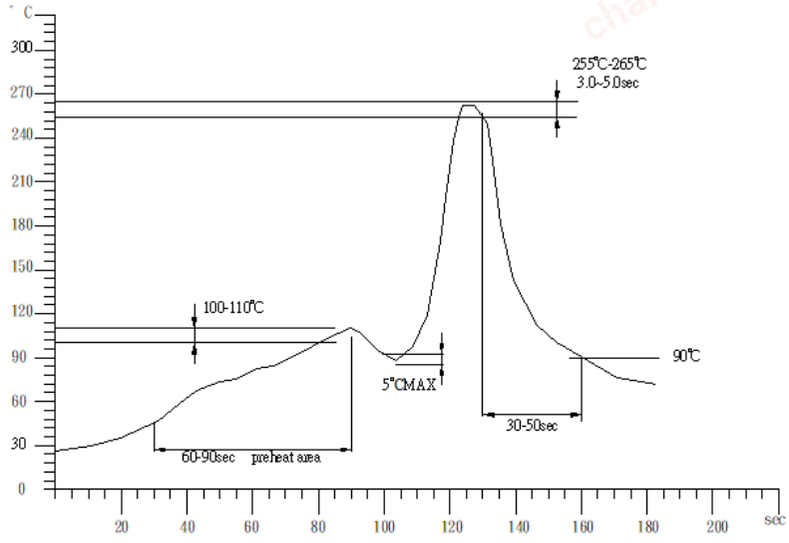
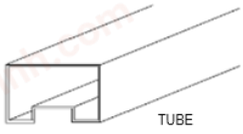
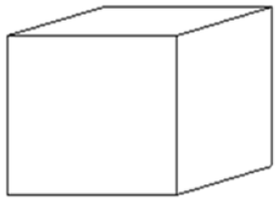
Wave Soldering Temperature Curve

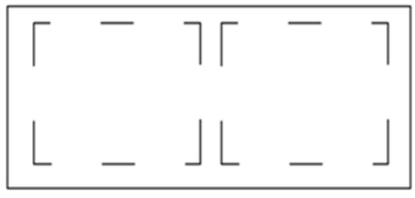


Carton Package





INNER CARTON:567*135*125



EXPORT CARTON:598*287*150

TUBE=19PCS
INNER CARTON=20 TUBE=20*19=380PCS
EXPORT CARTON=2 INNER CARTON=2*380=760PCS

For More Information:

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