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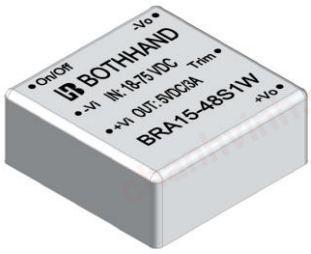
BRA15W Series

15W, Isolated DC-DC Converters

Pulse
a YAGEO company



Features

- Wide 4:1 Input Voltage Range
- High Efficiency up to 89%
- Remote On/Off
- Input / Output Isolation: 1500VDC
- Operating Temperature Range: -40°C to +105°C
- Output Short Circuit Protection
- Over Voltage Protection: Clamp Mode
- 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		
BRA15-24S0W	9 - 36 24V nominal	3.3	0	4000	59	671	86	12000
BRA15-24S1W		5	0	3000	53	744	88	6000
BRA15-24S2W		12	44	1300	56	783	87	2000
BRA15-24S3W		15	0	1000	59	753	87	1200
BRA15-24D1W		±5	33	±1500	49	772	85	3000 / 3000
BRA15-24D2W		±12	0	±625	58	753	87	1000 / 1000
BRA15-24D3W		±15	20	±500	60	753	87	600 / 600
BRA15-48S0W	18 - 75 48V nominal	3.3	0	4000	27	335	86	12000
BRA15-48S1W		5	0	3000	24	368	89	6000
BRA15-48S2W		12	0	1300	28	382	89	2000
BRA15-48S3W		15	0	1000	29	368	89	1200
BRA15-48D1W		±5	0	±1500	23	386	85	3000 / 3000
BRA15-48D2W		±12	0	±625	28	372	88	1000 / 1000
BRA15-48D3W		±15	0	±500	30	368	89	600 / 600

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Input Specifications		
Input voltage range		See Models and Ratings table
Input filter		Pi Type
Input surge voltage (100ms max.)	24Vin model	50 VDC max.
	48Vin model	100 VDC max.
Input reflected ripple current	Nominal Vin and full load	60 mAp-p max.
Remote ON/OFF	Converter: ON	Open circuit or 3.5 to 12 VDC
	Converter: OFF	Short circuit or 0 to 0.7 VDC
		Refer to 'Remote' and '-Vin' pin
Off idle input current	Nominal Vin	12 mA max.
Remote pin input current	Nominal Vin	0.2 mA max.
Output Specifications		
Output power		15 Watts max.
Voltage accuracy	Nominal Vin and full load	±1% max.
Output voltage adjustability (Trim)		±10% max.
Minimum load		See Models and Ratings table
Line regulation		±1% max.
Load regulation	25% load to full load	
	Single output models	±1% max.
	Dual output models	±0.5% max.
Cross regulation		±5% max.
Ripple and noise	20MHz bandwidth	80 mVp-p max.
Over voltage protection (Zener diode clamping)	3.3Vout models	3.9V
	5Vout models	6.2V
	12Vout models	15V
	15Vout models	18V
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	560 µs max.
Transient response deviation	di/dt = 0.8 A/µs	
	3.3Vout models	±6% max.
	Other models	±5% max.
Temperature coefficient		±0.03% / °C max.

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General Specifications		
Efficiency	Nominal Vin and full load	See Models and Ratings table
Switching frequency	PWM	330 kHz typ.
Start-up time	Nominal Vin and constant resistive load	72 ms typ.
Isolation voltage	Input to output	1500 VDC min.
	Input/output to case	1500 VDC min.
Isolation resistance	500 VDC	1000 MΩ min.
Isolation capacitance		1000 pF typ.
Reliability, calculated MTBF	MIL-HDBK-217F, Ground Benign	640 × 10^3 h
Operating ambient temperature	With derating	-40°C to +85°C
Maximum case temperature		+110°C max.
Storage temperature range		-55°C to +125°C
Relative humidity		95% RH 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		19.2 g typ.

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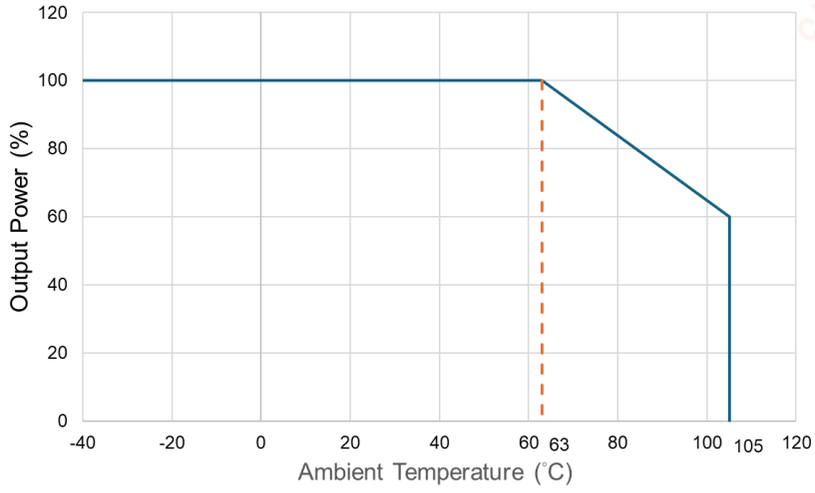
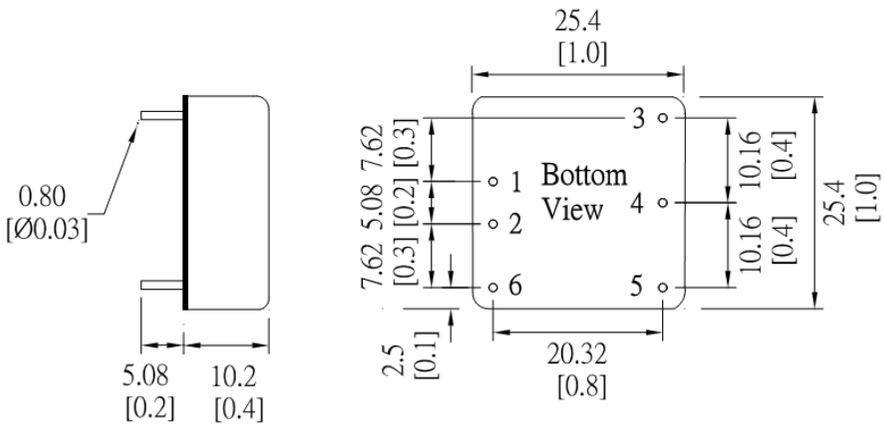
Characteristic Curves

Power Derating Curve



Mechanical



Pinout		
PIN	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	Common
5	-Vout	-Vout
6	Remote On/Off	

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

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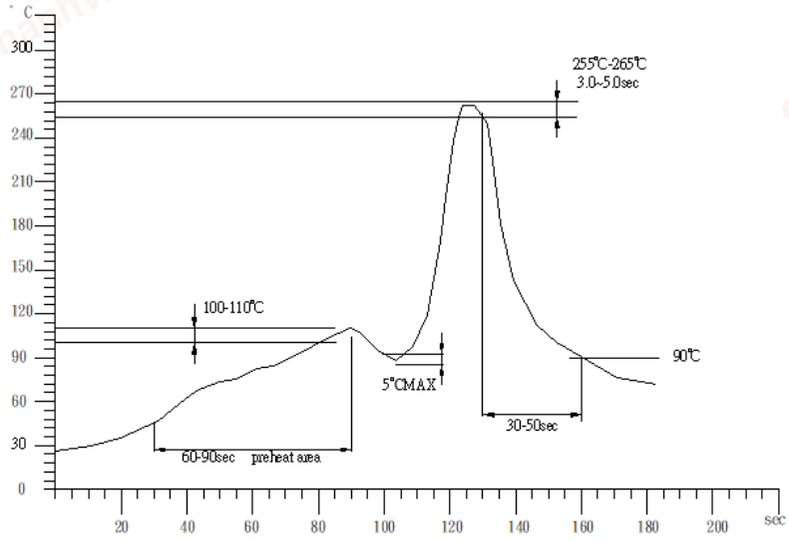
Wave Soldering Temperature Curve



Carton Package



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

For More Information:

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