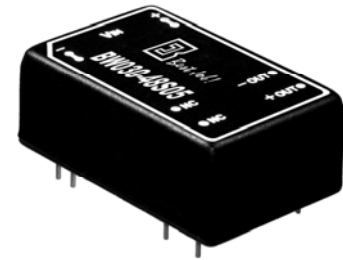


# BW SERIES 3W - 8W WIDE INPUT RANGE



## FEATURES

- 3 TO 8W DIL PACKAGE
- WIDE INPUT RANGE
- 100% BURNED IN
- SHORT CIRCUIT PROTECTION
- HIGH EFFICIENCY
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTION BE AVAILABLE
- 3 YEARS WARRANTY



OUTPUT SPECIFICATIONS		INPUT SPECIFICATIONS		GENERAL SPECIFICATIONS	
Voltage Set-point Accuracy		Input Voltage Range	2:1-4:1 Input Range	Efficiency	68% min
Single/Dual	+/-2% max	Input Filter	Pi Network	Isolation Voltage	
Separate/Triple	Out1 +/-2% max	Protection	Fuse Recommended	Single/Dual	1500-3000VDC
	Out2/Out3 +/-5% max	<b>ENVIRONMENTAL SPECIFICATIONS</b>		Separate/Triple	In to Out 1500VDC
Temperature Coefficient	+/-0.05%/°C	Operating Temperature	-40°C to +71°C		Out to Out 500VDC
Ripple & Noise(20MHz BW)	100mVp-p max	Storage Temperature	-55°C to +125°C	Isolation Resistance	10 <sup>9</sup> ohms min
Line Regulation		Cooling	Free-Air Convection	Isolation Capacitance	1200pF max
Single/Dual	+/-1% max	Humidity	95% max	Switching Frequency	50KHz min
Separate/Triple	Out1 +/-1% max			MTBF	>900,000 Hours
	Out2/Out3 +/-3% max	Minimum Load	20% of Full Load	Case Material	Five-Side Shielded Case
Load Regulation		Short Circuit Protection	Continuous	Potting Material	Epoxy(UL94V-0)
Single/Dual	+/-0.5% max	Short Circuit Restart	Automatic	Conducted Emissions	EN55022 Class B
Separate/Triple	Out1 +/-1% max	Transient Response	200uS max	Case Size	31.8mm*20.3mm*12.2mm
	Out2/Out3 +/-5% max			Weight	17.5g typ.

### ● 2:1 3W OUTPUT ISOLATION 1500VDC

MODEL NUMBER	INPUT (VDC)	OUTPUT		EFF (%)	PACKAGE
		VOLT. (VDC)	CURRENT (mA)		
BW025-05S3.3(ABC)/M	4.5-9	3.3	755	73	A / B / C
BW025-05S05(ABCD)/M	4.5-9	5	500	73	A / B / C / D
BW030-05S12(ABCD)/M	4.5-9	12	250	76	A / B / C / D
BW030-05S15(ABCD)/M	4.5-9	15	200	76	A / B / C / D
BW030-05D05A/M	4.5-9	+/-5	+/-300	70	A
BW030-05D12(ABC)/M	4.5-9	+/-12	+/-125	74	A / B / C
BW030-05D15(ABC)/M	4.5-9	+/-15	+/-100	75	A / B / C
BW023-12S3.3(ABC)/M	9-18	3.3	700	70	A / B / C
BW030-12S05(ABCD)/M	9-18	5	600	74	A / B / C / D
BW030-12S09(ABCD)/M	9-18	9	330	79	A / B / C / D
BW030-12S12(ABCD)/M	9-18	12	250	80	A / B / C / D
BW030-12S15(ABCD)/M	9-18	15	200	80	A / B / C / D
BW030-12S24(ABCD)/M	9-18	24	125	80	A / B / C / D
BW030-12D05(ABC)/M	9-18	+/-5	+/-300	74	A / B / C
BW030-12D12(ABC)/M	9-18	+/-12	+/-125	79	A / B / C
BW030-12D15(ABC)/M	9-18	+/-15	+/-100	79	A / B / C
BW030-24S05(ABCD)/M	18-36	5	600	75	A / B / C / D
BW030-24S09(ABCD)/M	18-36	9	330	79	A / B / C / D
BW030-24S12(ABCD)/M	18-36	12	250	80	A / B / C / D

BW030-24S15(ABCD)/M	18-36	15	200	80	A / B / C / D
BW030-24S24(ABCD)/M	18-36	24	125	80	A / B / C / D
BW030-24D05(ABC)/M	18-36	+/-5	+/-300	75	A / B / C
BW030-24D12(ABC)/M	18-36	+/-12	+/-125	80	A / B / C
BW030-24D15(ABC)/M	18-36	+/-15	+/-100	80	A / B / C
BW030-48S05(ABCD)/M	36-72	5	600	76	A / B / C / D
BW030-48S09(ABCD)/M	36-72	9	330	79	A / B / C / D
BW030-48S12(ABCD)/M	36-72	12	250	78	A / B / C / D
BW030-48S15(ABCD)/M	36-72	15	200	82	A / B / C / D
BW030-48S24(ABCD)/M	36-72	24	125	82	A / B / C / D
BW030-48D05(ABC)/M	36-72	+/-5	+/-300	76	A / B / C
BW030-48D12(ABC)/M	36-72	+/-12	+/-125	78	A / B / C
BW030-48D15(ABC)/M	36-72	+/-15	+/-100	79	A / B / C

### ● 2:1 3W OUTPUT ISOLATION 2000VDC

BW025-05S05P/M	4.5-9	5	500	73	P
BW030-05S12P/M	4.5-9	12	250	73	P
BW030-05S15P/M	4.5-9	15	200	76	P
BW030-12S3.3P/M	9-18	3.3	910	70	P
BW030-12S05P/M	9-18	5	600	74	P
BW030-12S09P/M	9-18	9	330	79	P
BW030-12S12P/M	9-18	12	250	80	P
BW030-12S15P/M	9-18	15	200	80	P

BW030-24S3.3P/M	18-36	3.3	910	76	P
BW030-24S05P/M	18-36	5	600	75	P
BW030-24S09P/M	18-36	9	330	79	P
BW030-24S12P/M	18-36	12	250	80	P
BW030-24S15P/M	18-36	15	200	80	P
BW030-48S3.3P/M	36-72	3.3	910	72	P
BW030-48S05P/M	36-72	5	600	76	P
BW030-48S09P/M	36-72	9	330	79	P
BW030-48S12P/M	36-72	12	250	82	P
BW030-48S15P/M	36-72	15	200	82	P

● 4:1 3W OUTPUT ISOLATION 1500VDC

BW030-412S05(ABC)/M	9-36	5	600	72	A / B / C
BW030-412S12(ABC)/M	9-36	12	250	78	A / B / C
BW030-412S15(ABC)/M	9-36	15	200	78	A / B / C
BW030-412S24(ABC)/M	9-36	24	125	78	A / B / C
BW030-412D05(ABC)/M	9-36	+/-5	+/-300	71	A / B / C
BW030-412D12(ABC)/M	9-36	+/-12	+/-125	78	A / B / C
BW030-412D15(ABC)/M	9-36	+/-15	+/-100	78	A / B / C
BW030-424S05(ABC)/M	18-72	5	600	74	A / B / C
BW030-424S12(ABC)/M	18-72	12	250	78	A / B / C
BW030-424S15(ABC)/M	18-72	15	200	80	A / B / C
BW030-424S24(ABC)/M	18-72	24	125	78	A / B / C
BW030-424D05(ABC)/M	18-72	+/-5	+/-300	74	A / B / C
BW030-424D09(ABC)/M	18-72	+/-9	+/-167	79	A / B / C
BW030-424D12(ABC)/M	18-72	+/-12	+/-125	78	A / B / C
BW030-424D15(ABC)/M	18-72	+/-15	+/-100	78	A / B / C

● 2:1 4W-6W OUTPUT ISOLATION 1500VDC

MODEL NUMBER	INPUT (VDC)	OUTPUT		EFF (%)	PACKAGE
		VOLT. (VDC)	CURRENT (mA)		
BW040-05S05(AB)/M	4.5-9	5	800	74	A / B
BW040-05S12(AB)/M	4.5-9	12	333	75	A / B
BW040-05S15(AB)/M	4.5-9	15	267	75	A / B
BW040-05D05(AB)/M	4.5-9	+/-5	+/-400	71	A / B
BW040-05D12(AB)/M	4.5-9	+/-12	+/-167	75	A / B
BW040-05D15(AB)/M	4.5-9	+/-15	+/-133	75	A / B
BW040-12S3.3(AB)/M	9-18	3.3	1200	75	A / B
BW050-12S05(AB)/M	9-18	5	1000	75	A / B
BW050-12S09(AB)/M	9-18	9	556	80	A / B
BW056-12S12(AB)/M	9-18	12	470	80	A / B
BW060-12S15(AB)/M	9-18	15	400	81	A / B
BW050-12S24(AB)/M	9-18	24	208	80	A / B
BW050-12D05(AB)/M	9-18	+/-5	+/-500	75	A / B
BW055-12D12(AB)/M	9-18	+/-12	+/-230	79	A / B
BW057-12D15(AB)/M	9-18	+/-15	+/-190	81	A / B
BW040-24S3.3(AB)/M	18-36	3.3	1200	76	A / B
BW050-24S05(AB)/M	18-36	5	1000	77	A / B
BW050-24S09(AB)/M	18-36	9	556	81	A / B
BW056-24S12(AB)/M	18-36	12	470	80	A / B
BW060-24S15(AB)/M	18-36	15	400	83	A / B
BW050-24S24(AB)/M	18-36	24	208	80	A / B
BW050-24D05(AB)/M	18-36	+/-5	+/-500	77	A / B
BW055-24D12(AB)/M	18-36	+/-12	+/-230	82	A / B
BW057-24D15(AB)/M	18-36	+/-15	+/-190	83	A / B
BW040-48S3.3(AB)/M	36-72	3.3	1200	76	A / B
BW050-48S05(AB)/M	36-72	5	1000	77	A / B
BW050-48S09(AB)/M	36-72	9	556	80	A / B
BW056-48S12(AB)/M	36-72	12	470	83	A / B
BW060-48S15(AB)/M	36-72	15	400	81	A / B
BW050-48S24(AB)/M	36-72	24	208	80	A / B
BW050-48D05(AB)/M	36-72	+/-5	+/-500	77	A / B
BW055-48D12(AB)/M	36-72	+/-12	+/-230	80	A / B

BW057-48D15(AB)/M	36-72	+/-15	+/-190	81	A / B
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● 4:1 4W-5W OUTPUT ISOLATION 1500VDC

BW040-412S3.3AM	9-36	3.3	1200	70	A
BW050-412S05AM	9-36	5	1000	76	A
BW050-412S09AM	9-36	9	556	77	A
BW050-412S12AM	9-36	12	417	77	A
BW050-412S15AM	9-36	15	333	78	A
BW050-412D05AM	9-36	+/-5	+/-500	74	A
BW050-412D12AM	9-36	+/-12	+/-208	78	A
BW050-412D15AM	9-36	+/-15	+/-167	78	A
BW040-424S3.3AM	18-72	3.3	1200	72	A
BW050-424S05AM	18-72	5	1000	77	A
BW050-424S09AM	18-72	9	556	79	A
BW050-424S12AM	18-72	12	417	79	A
BW050-424S15AM	18-72	15	333	80	A
BW050-424D05AM	18-72	+/-5	+/-500	74	A
BW050-424D12AM	18-72	+/-12	+/-208	77	A
BW050-424D15AM	18-72	+/-15	+/-167	80	A

● 2:1 7.5W-8W OUTPUT ISOLATION 1500VDC

BW075-05S05AM	4.5-7	5	1500	79	A
BW075-05S12AM	4.5-7	12	625	79	A
BW074-05D12AM	4.5-7	+/-12	+/-310	80	A
BW075-05D15AM	4.5-7	+/-15	+/-250	79	A
BW066-12S3.3AM	9-18	3.3	2000	75	A
BW080-12S05AM	9-18	5	1600	75	A
BW080-12S09AM	9-18	9	888	80	A
BW080-12S12AM	9-18	12	670	80	A
BW080-12S15AM	9-18	15	533	79	A
BW080-12D05AM	9-18	+/-5	+/-800	75	A
BW080-12D09AM	9-18	+/-9	+/-444	78	A
BW080-12D12AM	9-18	+/-12	+/-335	80	A
BW080-12D15AM	9-18	+/-15	+/-267	80	A
BW066-24S3.3AM	18-36	3.3	2000	78	A
BW080-24S05AM	18-36	5	1600	78	A
BW080-24S09AM	18-36	9	888	79	A
BW080-24S12AM	18-36	12	670	82	A
BW080-24S15AM	18-36	15	533	81	A
BW080-24S24AM	18-36	24	333	80	A
BW080-24D05AM	18-36	+/-5	+/-800	78	A
BW080-24D09AM	18-36	+/-9	+/-444	79	A
BW080-24D12AM	18-36	+/-12	+/-335	80	A
BW080-24D15AM	18-36	+/-15	+/-267	80	A
BW070-48S3.3AM	36-72	3.3	2121	83	A
BW080-48S05AM	36-72	5	1600	78	A
BW080-48S09AM	36-72	9	888	79	A
BW080-48S12AM	36-72	12	670	81	A
BW080-48S15AM	36-72	15	533	81	A
BW080-48D05AM	36-72	+/-5	+/-800	78	A
BW080-48D09AM	36-72	+/-9	+/-444	79	A
BW080-48D12AM	36-72	+/-12	+/-335	80	A
BW080-48D15AM	36-72	+/-15	+/-267	80	A

● 2:1 or 4:1 3W DUAL SEPARATE OUTPUT

MODEL NUMBER	INPUT (VDC)	OUTPUT		EFF (%)	PACKAGE
		VOLTAGE (VDC)	CURRENT (mA)		
BW030-121515FM	9-18	V1:15V V2:15V	V1:100 V2:100	79	F
BW030-4120505FM	9-36	V1:5V V2:5V	V1:300 V2:300	74	F
BW030-4121212FM	9-36	V1:12V V2:12V	V1:125 V2:125	76	F

BW030-4121515FM	9-36	V1:15V V2:15V	V1:100 V2:100	78	F
BW030-4122424FM	9-36	V1:24V V2:24V	V1:63 V2:63	79	F
BW030-4240505FM	18-72	V1:5V V2:5V	V1:300 V2:300	74	F
BW030-4241212FM	18-72	V1:12V V2:12V	V1:125 V2:125	80	F
BW030-4241515FM	18-72	V1:15V V2:15V	V1:100 V2:100	80	F
BW030-4242424FM	18-72	V1:24V V2:24V	V1:63 V2:63	82	F

● **2:1 or 4:1 3-5W DUAL SEPARATE OUTPUT**

BW030-4120505EM	9-36	V1:5V V2:5V	V1:300 V2:300	72	E
BW045-4120505EM	9-36	V1:5V V2:5V	V1:450 V2:450	72	E
BW030-121515EM	9-18	V1:15V V2:15V	V1:100 V2:100	72	E
BW045-4121515EM	9-36	V1:15V V2:15V	V1:150 V2:150	74	E
BW045-4122424EM	9-36	V1:24V V2:24V	V1:95 V2:95	74	E
BW045-241212EM	18-36	V1:12V V2:12V	V1:188 V2:188	78	E
BW030-241515EM	18-36	V1:15V V2:15V	V1:100 V2:100	74	E
BW030-4240505EM	18-72	V1:5V V2:5V	V1:300 V2:300	74	E
BW030-4481212EM	36-72	V1:12V V2:12V	V1:125 V2:125	75	E

● **2:1 4W TRIPLE OUTPUT**

MODEL NUMBER	INPUT (VDC)	OUTPUT						EFF (%)	PACK-AGE
		VOLTAGE (VDC)			CURRENT (mA)				
		1	2	3	1	2	3		
BW040-0505S12D	4.5-9	+5	+12	-12	300	100	100	74	T
BW040-0505S15D	4.5-9	+5	+15	-15	300	80	80	70	T
BW040-1205S12D	9-18	+5	+12	-12	300	100	100	73	T
BW040-1205S15D	9-18	+5	+15	-15	300	80	80	74	T
BW040-2405S12D	18-36	+5	+12	-12	300	100	100	73	T
BW040-2405S15D	18-36	+5	+15	-15	300	80	80	74	T
BW040-4805S12D	36-72	+5	+12	-12	300	100	100	73	T
BW040-4805S15D	36-72	+5	+15	-15	300	80	80	74	T

● **2:1 3W OUTPUT ISOLATION 3000VDC**

BW025-05S05AM-3K	4.5-9	5	500	73	A
BW030-05S12AM-3K	4.5-9	12	250	76	A
BW030-05S15(AC)M-3K	4.5-9	15	200	76	A / C
BW023-12S3.3AM-3K	9-18	3.3	700	70	A
BW030-12S05AM-3K	9-18	5	600	74	A
BW030-12S09AM-3K	9-18	9	330	79	A
BW030-12S12AM-3K	9-18	12	250	80	A
BW030-12S15AM-3K	9-18	15	200	80	A
BW030-12D05AM-3K	9-18	+/-5	+/-300	74	A
BW030-12D12AM-3K	9-18	+/-12	+/-125	79	A
BW030-12D15AM-3K	9-18	+/-15	+/-100	79	A
BW030-24S3.3AM-3K	18-36	3.3	910	77	A
BW030-24S05AM-3K	18-36	5	600	75	A
BW030-24S09AM-3K	18-36	9	330	79	A
BW030-24S12AM-3K	18-36	12	250	80	A

BW030-24S15AM-3K	18-36	15	200	80	A
BW030-24S24AM-3K	18-36	24	125	81	A
BW030-24D05AM-3K	18-36	+/-5	+/-300	75	A
BW030-24D12AM-3K	18-36	+/-12	+/-125	80	A
BW030-24D15AM-3K	18-36	+/-15	+/-100	80	A
BW023-48S3.3AM-3K	36-72	3.3	700	72	A
BW030-48S05AM-3K	36-72	5	600	76	A
BW030-48S09AM-3K	36-72	9	330	79	A
BW030-48S12AM-3K	36-72	12	250	82	A
BW030-48S15AM-3K	36-72	15	200	82	A
BW030-48D05AM-3K	36-72	+/-5	+/-300	76	A
BW030-48D12AM-3K	36-72	+/-12	+/-125	78	A
BW030-48D15AM-3K	36-72	+/-15	+/-100	79	A

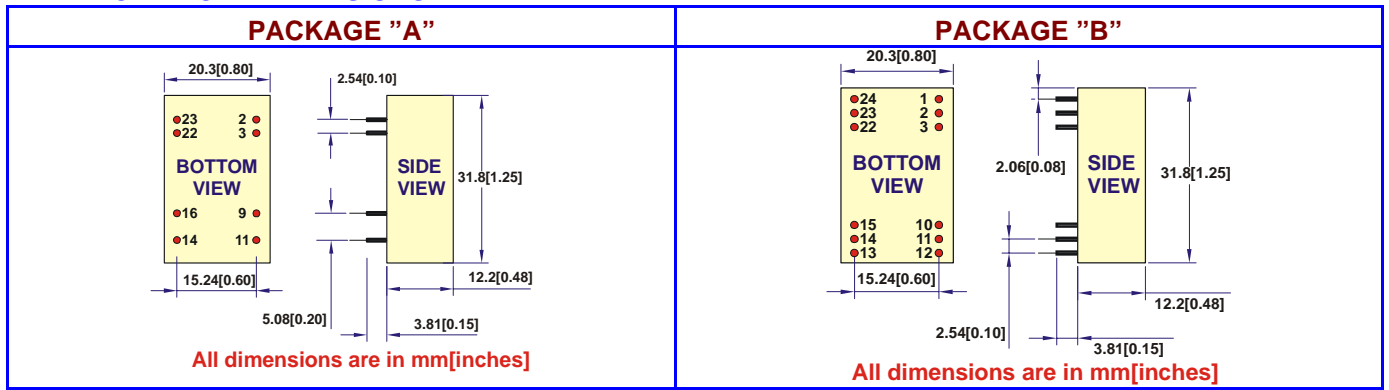
● **4:1 3W OUTPUT ISOLATION 3000VDC**

MODEL NUMBER	INPUT (VDC)	OUTPUT		EFF (%)	PACKAGE
		VOLT. (VDC)	CURRENT (mA)		
BW023-412S3.3AM-3K	9-36	3.3	700	68	A
BW030-412S05AM-3K	9-36	5	600	74	A
BW030-412S09AM-3K	9-36	9	330	77	A
BW030-412S12AM-3K	9-36	12	250	78	A
BW030-412S15AM-3K	9-36	15	200	78	A
BW030-412D05AM-3K	9-36	+/-5	+/-300	71	A
BW030-412D12AM-3K	9-36	+/-12	+/-125	78	A
BW030-412D15AM-3K	9-36	+/-15	+/-100	78	A
BW023-424S3.3AM-3K	18-72	3.3	700	71	A
BW030-424S05AM-3K	18-72	5	600	74	A
BW030-424S09AM-3K	18-72	9	330	79	A
BW030-424S12AM-3K	18-72	12	250	80	A
BW030-424S15AM-3K	18-72	15	200	80	A
BW030-424D05AM-3K	18-72	+/-5	+/-300	74	A
BW030-424D12AM-3K	18-72	+/-12	+/-125	78	A
BW030-424D15AM-3K	18-72	+/-15	+/-100	78	A

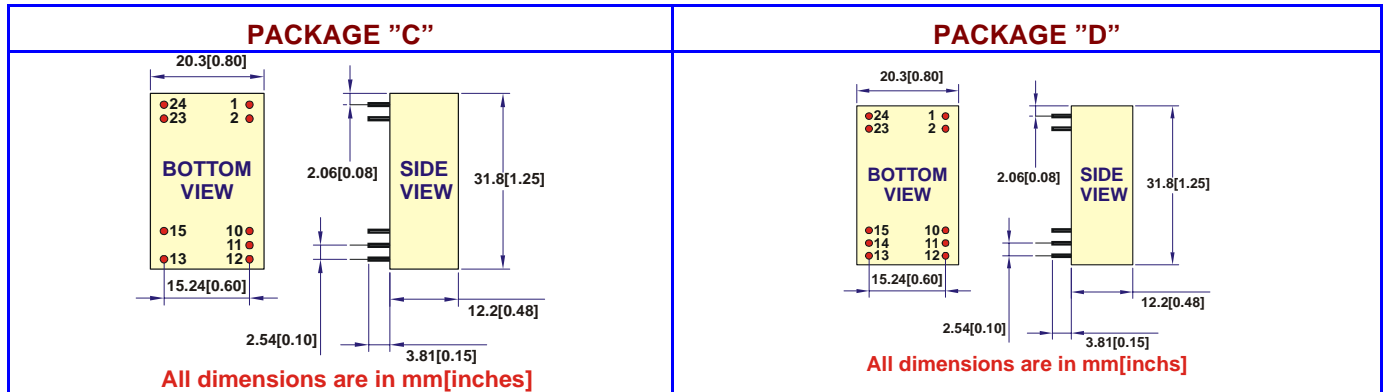
● **2:1 4W-6W OUTPUT ISOLATION 3000VDC**

BW040-12S3.3AM-3K	9-18	3.3	1200	75	A
BW050-12S05AM-3K	9-18	5	1000	75	A
BW050-12S09AM-3K	9-18	9	556	80	A
BW056-12S12AM-3K	9-18	12	470	80	A
BW060-12S15AM-3K	9-18	15	400	81	A
BW050-12D05AM-3K	9-18	+/-5	+/-500	75	A
BW055-12D12AM-3K	9-18	+/-12	+/-230	79	A
BW057-12D15AM-3K	9-18	+/-15	+/-190	81	A
BW040-24S3.3AM-3K	18-36	3.3	1200	76	A
BW050-24S05AM-3K	18-36	5	1000	77	A
BW050-24S09AM-3K	18-36	9	556	81	A
BW056-24S12AM-3K	18-36	12	470	82	A
BW060-24S15AM-3K	18-36	15	400	83	A
BW050-24D05AM-3K	18-36	+/-5	+/-500	77	A
BW055-24D12AM-3K	18-36	+/-12	+/-230	82	A
BW057-24D15AM-3K	18-36	+/-15	+/-190	83	A
BW040-48S3.3AM-3K	36-72	3.3	1200	74	A
BW050-48S05AM-3K	36-72	5	1000	77	A
BW050-48S09AM-3K	36-72	9	556	83	A
BW056-48S12AM-3K	36-72	12	470	80	A
BW060-48S15AM-3K	36-72	15	400	85	A
BW050-48D05AM-3K	36-72	+/-5	+/-500	77	A
BW055-48D12AM-3K	36-72	+/-12	+/-230	83	A
BW057-48D15AM-3K	36-72	+/-15	+/-190	85	A

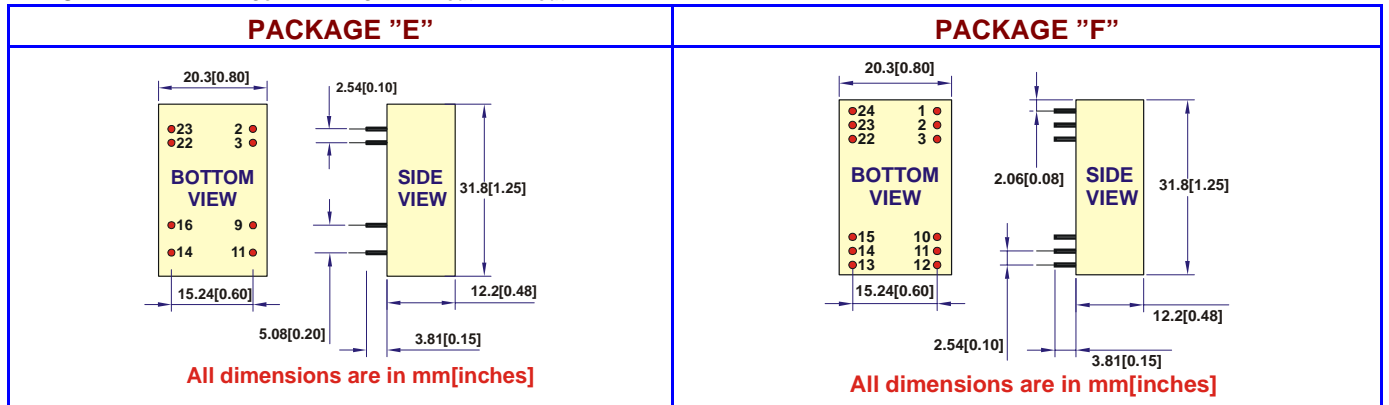
● MECHANICAL DIMENSIONS



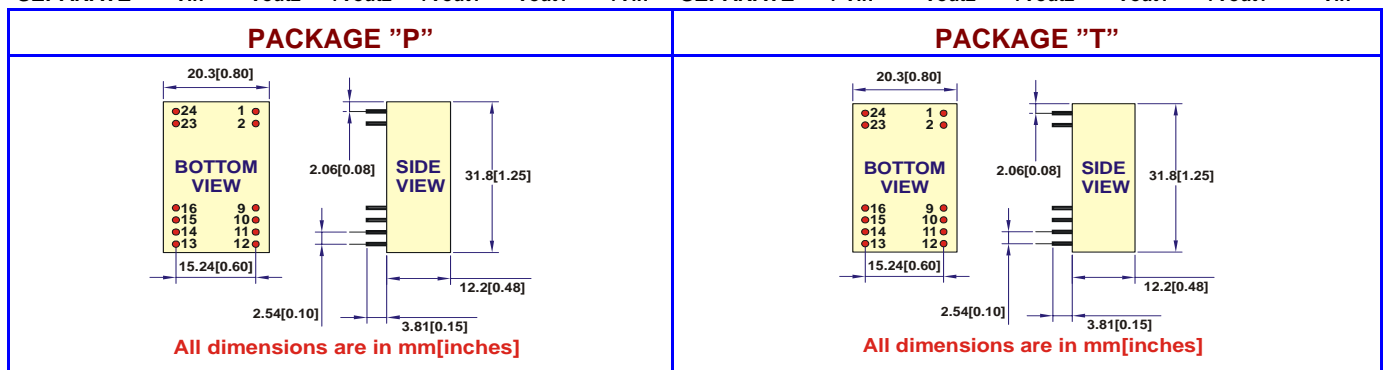
	PIN	2 & 3	9	11	14	16	22 & 23	PIN	1 & 24	2 & 23	3 & 22	10 & 15	11 & 14	12 & 13
<b>SINGLE</b>		-Vin	NC	NC	+Vout	-Vout	+Vin	<b>SINGLE</b>	+Vin	NP	NP	-Vout	+Vout	-Vin
<b>DUAL</b>		-Vin	Com.	-Vout	+Vout	Com.	+Vin	<b>DUAL</b>	+Vin	-Vout	Com.	Com.	+Vout	-Vin



	PIN	1 & 2	10 & 11	12	13	15	23 & 24	PIN	1 & 24	2 & 23	10 & 15	11 & 14	12 & 13
<b>SINGLE</b>		+Vin	NC	-Vout	+Vout	NC	-Vin	<b>SINGLE</b>	+Vin	-Vin	-Vout	NC	+Vout
<b>DUAL</b>		+Vin	Com.	NC	-Vout	+Vout	-Vin						



	PIN	2 & 3	9	11	14	16	22 & 23	PIN	1 & 24	2 & 23	3 & 22	10 & 15	11 & 14	12 & 13
<b>SEPARATE</b>		-Vin	-Vout2	+Vout2	+Vout1	-Vout1	+Vin	<b>SEPARATE</b>	+Vin	-Vout2	+Vout2	-Vout1	+Vout1	-Vin



	PIN	1 & 2	23 & 24	9 & 10	11 & 12	13 & 14	15 & 16	PIN	1 & 2	23 & 24	9 & 16	10 & 15	11 & 14	12 & 13
<b>SINGLE</b>		+Vin	-Vin	-Vout	+Vout	NC	NC	<b>TRIPLE</b>	-Vin	+Vin	-Vout3	Com.	+Vout1	+Vout2