

# DC-DC Converter UNIT

KAW Series ( 30 W WIDE INPUT RANGE DC-DC CONVERTER )

## FEATURES

- SIX-SIDE SHIELDED CASE
- 9-18V,18-36V,36-72V WIDE INPUT RANGE
- SHORT CIRCUIT PROTECTION
- REMOTE ON/OFF AND TRIM
- NO EXTERNAL COMPONENTS REQUIRED
- TYPICAL EFFICIENCY 80%
- 100% BURNED IN
- INDUSTRY STANDARD PACKAGE
- MTBF > 700,000 HOURS



### ● OUTPUT SPECIFICATIONS

Voltage Setpoint Accuracy	+/-2% max
Temperature Coefficient	+/-0.03%/°C
Ripple & Noise (20MHz BW)	100mVp-p max
Line Regulation <sup>1</sup>	+/-0.2% max
Load Regulation <sup>2</sup>	+/-0.2% max
Short Circuit Protection	Continuous
OverVoltage Protection	Built-in

External Trim Adj. Range +/-10%

### ● ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-25 °C to +71 °C
Storage Temperature	-55 °C to +100 °C
Cooling	Free-Air Convection

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD , AND 25 °C UNLESS OTHERWISE NOTED.

### ● INPUT SPECIFICATIONS

Input Voltage Range	2:1 INPUT RANGE
Input Filter	Pi Network

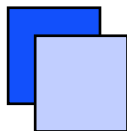
### ● GENERAL SPECIFICATIONS

Efficiency	75% min
Transient Response(Full to 1/2 Load)	<500uSec
Isolation Voltage <sup>3</sup>	1000 VDC min
Isolation Resistance	10 <sup>9</sup> ohms min
Switching Frequency	100 KHz min
MTBF	700,000 Hours
Weight	110g Typ
Case Material	Six-Side Shielded Case
Case Size	50.8mm*50.8mm*21mm

<sup>1</sup> High Line to Low Line.

<sup>2</sup> Load Regulation is for output load current change from 10% to 100%.

<sup>3</sup> For 10 seconds



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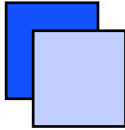
## ● SELECTION GUIDE 2:1 30W OUTPUT

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>4</sup> CURRENT(mA)		EFF (%) <sup>5</sup>	ISOLATION (VDC)
				FULL LOAD	NO LOAD		
				KAWS-1205	9-18		
KAWS-1212	9-18	12	2500	3086	40	81	1000
KAWS-1215	9-18	15	2000	3096	38	81	1000
KAWD-1205	9-18	+/-5	+/-2500	2637	40	79	1000
KAWD-1212	9-18	+/-12	+/-1250	3125	40	80	1000
KAWD-1215	9-18	+/-15	+/-1000	3125	38	80	1000
KAWS-2405	18-36	5	5000	1302	20	80	1000
KAWS-2412	18-36	12	2500	1470	18	85	1000
KAWS-2415	18-36	15	2000	1470	18	85	1000
KAWD-2405	18-36	+/-5	+/-2500	1302	20	80	1000
KAWD-2412	18-36	+/-12	+/-1250	1470	18	85	1000
KAWD-2415	18-36	+/-15	+/-1000	1470	18	85	1000
KAWS-4805	36-72	5	5000	651	10	80	1000
KAWS-4812	36-72	12	2500	762	9	82	1000
KAWS-4815	36-72	15	2000	762	9	82	1000
KAWD-4805	36-72	+/-5	+/-2500	651	10	80	1000
KAWD-4812	36-72	+/-12	+/-1250	762	9	82	1000
KAWD-4815	36-72	+/-15	+/-1000	762	9	82	1000

Note: Other input to output voltages may be available. Please contact factory.

<sup>4</sup> NOMINAL INPUT VOLTAGE.

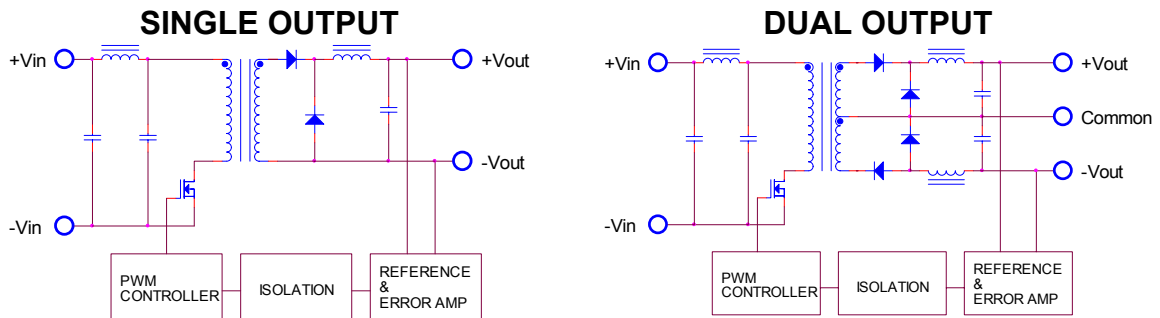
<sup>5</sup> NOMINAL INPUT VOLTAGE, FULL LOAD.



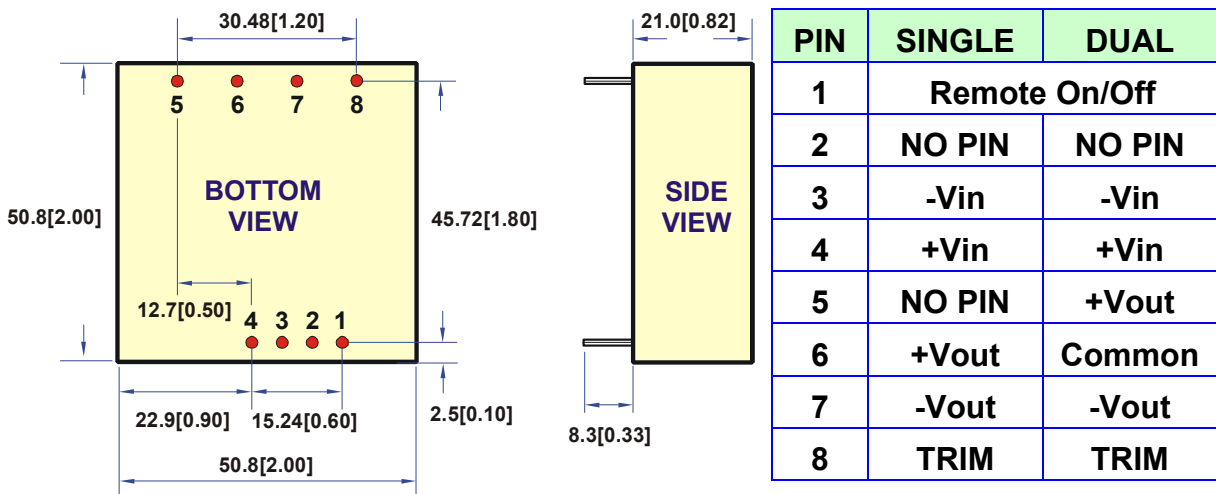
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## ● SIMPLIFIED SCHEMATIC

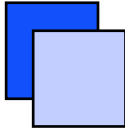


## ● MECHANICAL DIMENSIONS



All dimensions are in millimeters[inches]

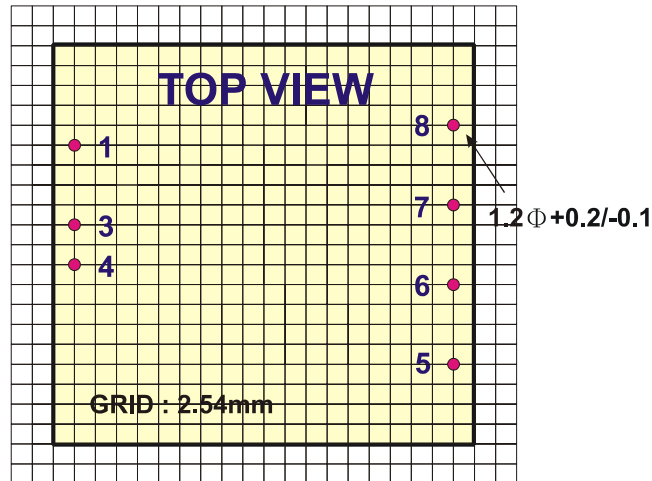
Remote On/Off Control			
Control Input	PIN1	Control Common	PIN3
Control Voltage		Converter Shutdown Idle Current	10mA
ON	>+2.5VDC or Open Circuit	Logic Compatibility	CMOS or Open
OFF	<+0.8VDC or Jumper to PIN3		Collector TTL



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## ● RECOMMENDED FOOTPRINT DETAILS

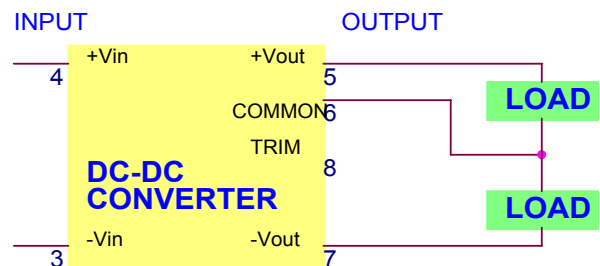
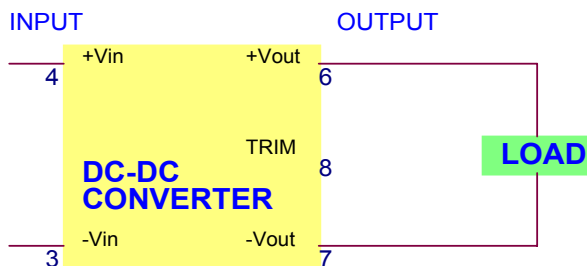


## ● TYPICAL APPLICATIONS

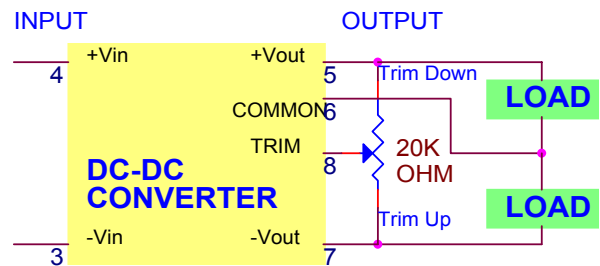
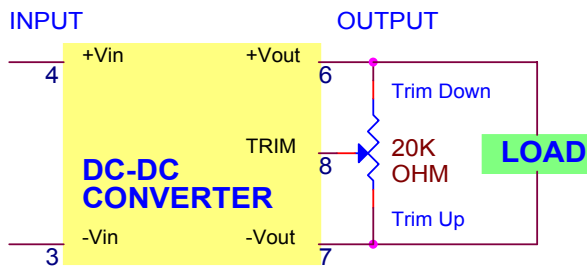
### SINGLE OUTPUT

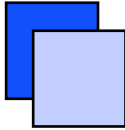
### DUAL OUTPUT

### FIXED VOLTAGE OUTPUT



### TRIM CONNECTIONS USING A TRIMPOT

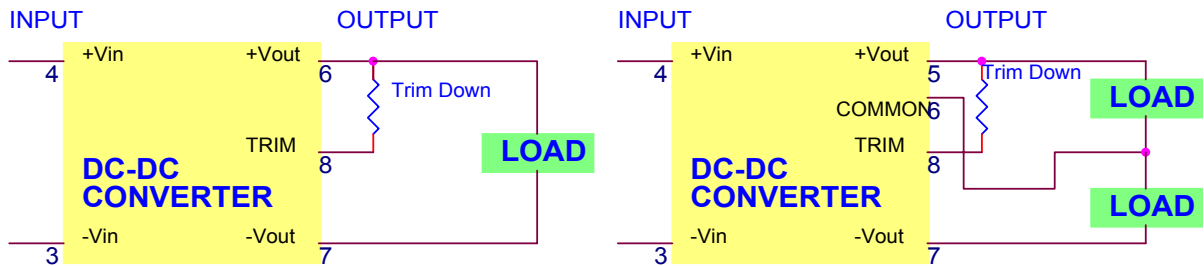




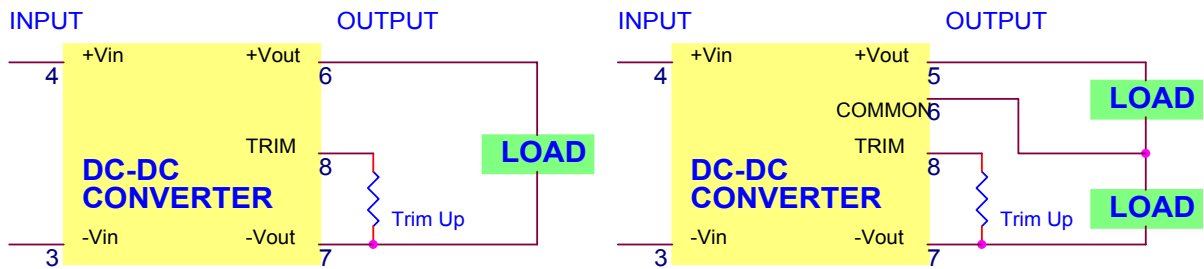
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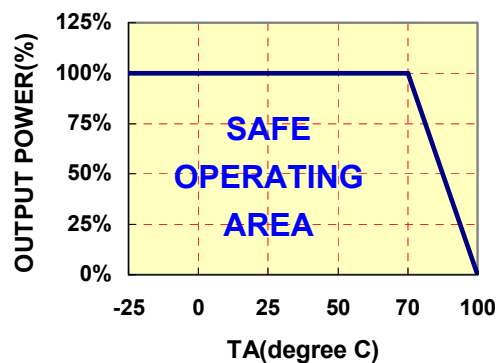
## FIXED-VALUE TRIM DOWN RESISTOR

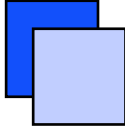


## FIXED-VALUE TRIM UP RESISTOR



## ● TEMPERATURE DERATING





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## **KAW SERIES APPLICATION NOTES:**

### **EXTERNAL CAPACITANCE REQUIREMENTS:**

*No external capacitance is required for operation of the KAW series.*

*To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 220KHz is required.*

*External output capacitance is not required for operation, however it is recommended that 10uF tantalum and 0.1uF ceramic capacitance be selected for reduced system noise.*

*Additional output capacitance may be added for increased filtering, but should not exceed 2200uF.*

### **Negative Outputs:**

*A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting -OUT as the negative output.*

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### **FOR MORE INFORMATION CALL:**

#### ***Power Systems – The Power Solution***

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