

# K-Series

## 1.5 - 3W Isolated DC/DC-Converters

- Wide 2:1 Input Range
- Full SMD Technology
- 1.5 kVDC or 3.5 kVDC Isolation
- Regulated 24 Pin DIP Package
- Single and Dual Output

### Selection Guide (See Model Code Information on Page 49)

Ordering Code	Nominal Input Voltage (VDC)	Input Current		Output Voltage (VDC)	Output Current (mA)	Efficiency at Full Load (%)
		No Load (mA)	Full Load (mA)			

#### 1.5W, 1.5kVDC, Single Output

K1.5-123.3S(H)-(M)	9 - 18	10	167	3.3	400	75
K1.5-1205S(H)-(M)	9 - 18	10	171	5	300	73
K1.5-1212S(H)-(M)	9 - 18	10	160	12	125	78
K1.5-2405S(H)-(M)	18 - 36	10	83	5	125	75
K1.5-2412S(H)-(M)	18 - 36	10	80	12	125	78
K1.5-2415S(H)-(M)	18 - 36	10	77	15	100	81
K1.5-4805S(H)-(M)	36 - 72	8	43	5	300	75

#### 1.5W, 1.5kVDC, Dual Output

K1.5-123.3D(H)-(M)	9 - 18	12	169	±3.3	±200	74
K1.5-1205D(H)-(M)	9 - 18	12	169	±5	±150	74
K1.5-2405D(H)-(M)	18 - 36	12	83	±5	±150	75
K1.5-2412D(H)-(M)	18 - 36	12	79	±12	±63	79
K1.5-2415D(H)-(M)	18 - 36	12	79	±15	±50	79
K1.5-4805D(H)-(M)	36 - 72	11	95	±5	±150	74
K1.5-4815D(H)-(M)	36 - 72	10	40	±15	±50	79

#### 2W, 1.5kVDC, Single Output

K2-1205S(H)-(M)	9 - 18	12	225	5	400	74
K2-1215S(H)-(M)	9 - 18	12	208	15	134	80
K2-2405S(H)-(M)	18 - 36	12	113	5	400	74
K2-2412S(H)-(M)	18 - 36	12	105	12	167	79
K2-2415S(H)-(M)	18 - 36	12	104	15	134	80
K2-4805S(H)-(M)	36 - 72	10	56	5	400	75
K2-4812S(H)-(M)	36 - 72	10	53	12	167	79

(\* Select on Inquiry Form 3.5 kVDC Isolation ('H' Feature) instead of 1.5 kVDC and Metal Case (Suffix 'M') vs. Plastic Case. See model Code information on page 49.

Continued on next Page.

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## 1.5 - 3W Isolated DC/DC-Converters

### Selection Guide (See Model Code Information on Page 48)

Ordering Code	Nominal Input Voltage (VDC)	Input Current		Output Voltage (VDC)	Output Current (mA)	Efficiency at Full Load (%)
		No Load (mA)	Full Load (mA)			

### 2W, Dual Output

K2-1205D(H)-(M)	9 - 18	10	225	±5	±200	74
K2-1212D(H)-(M)	9 - 18	10	213	±12	±83	78
K2-2405D(H)-(M)	18 - 36	10	109	±5	±200	76
K2-4805D(H)-(M)	36 - 72	15	56	±5	±200	75
K2-4812D(H)-(M)	36 - 72	15	53	±12	±83	79

### 3W, Single Output

K3-1205S(H)-(M)	9 - 18	14	338	5	600	74
K3-1212S(H)-(M)	9 - 18	14	320	12	250	78
K3-2405S(H)-(M)	18 - 36	14	166	5	600	75
K3-2412S(H)-(M)	18 - 36	14	160	12	250	78
K3-2415S(H)-(M)	18 - 36	14	158	15	200	79
K3-4805S(H)-(M)	36 - 72	12	83	5	600	75
K3-4812S(H)-(M)	36 - 72	12	79	12	250	79

### 3W, Dual Output

K3-1205D(H)-(M)	9 - 18	16	338	±5	±300	74
K3-1212D(H)-(M)	9 - 18	16	325	±12	±125	77
K3-2405D(H)-(M)	18 - 36	16	164	±5	±300	76
K3-2412D(H)-(M)	18 - 36	16	158	±12	±125	79
K3-4805D(H)-(M)	36 - 72	15	83	±5	±300	75
K3-4812D(H)-(M)	36 - 72	15	79	±12	±125	79
K3-4815D(H)-(M)	36 - 72	15	79	±15	±100	79

(\* Select on Inquiry Form 3,5 kVDC Isolation ('H' Feature) instead of 1.5 kVDC and Metal Case (Suffix 'M') vs. Plastic Case. See model Code information on page 49.

# K-Series

## 1.5 - 3W Isolated DC/DC-Converters

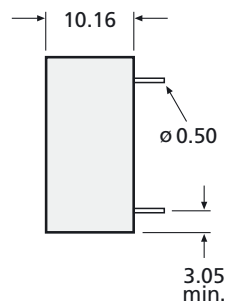
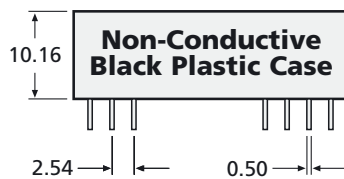
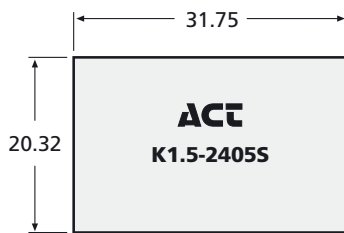
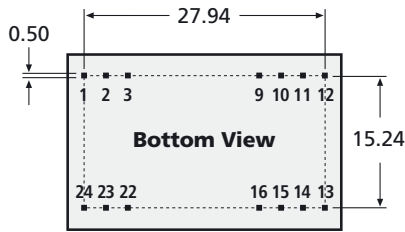
### Specifications – Typical at +25°C, Unless Otherwise Noted

Voltage Range	12V types	9-18 VDC	Temperature Coefficient	±0.02% / °C
	24Vtypes	18-36 VDC		
	48Vtypes	36-72 VDC		
Filter	π (Pi) Network		Switching Frequency	250 KHz, typ.
Rated Voltage	1500 VDC, Standard		Operating Temperature (Ambient)	-40°C to +85°C
	3500 VDC, Feature "H"			
Leakage Current	1 mA		Derating	None Required
Resistance	10 <sup>9</sup> Ω		Humidity	Up to 90%, Non-condensing
Capacitance	80 pF, typ.		Cooling	Free-air Convection
Voltage Accuracy	±1%, max.		Dimensions	31.75 x 20.32 x 10.16 mm 1.25 x 0.80 x 0.40"
Voltage Balance (dual Outputs)	±1%			
Ripple and Noise ( at 20 MHz BW )	60 mVp-p, max.		Weight	Black Plastic 14.5 g Metal 16.3 g
Short Circuit Protection	Continuous			
Short Circuit Restart	Automatic		Case Material	Non-conductive Black Plastic Nickel-Coated Copper = Suffix „M“
Line Voltage Regulation	±0.5%, max.			
Load Voltage Regulation	±0.5%, max.			

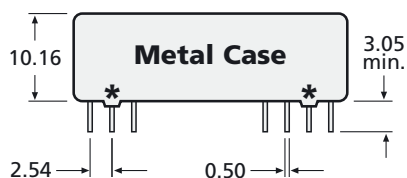
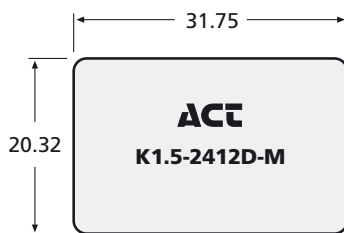
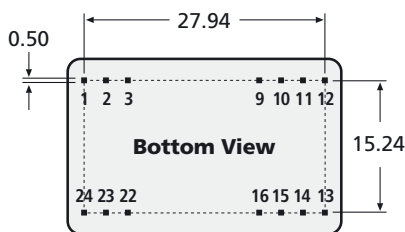
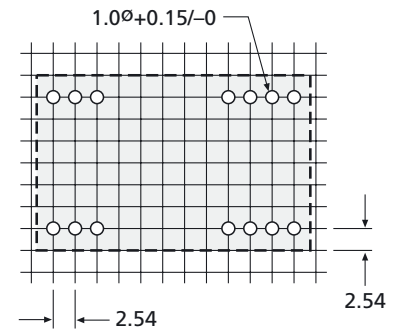
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## 1.5 - 3W Isolated DC/DC-Converters

### DIP24 Package Style and Pinning (mm)



#### Recommended Footprint Details



\* Built-in stand-offs to ease PCB cleaning

#### Pin Connections

Pin #	1kVDC Standard		3.5kVDC	
	Single	Dual	Single	Dual
1	+Vin	+Vin	Omitted	Omitted
2	NC	-Vout	-Vin	-Vin
3	NC	Common	-Vin	-Vin
9	Omitted	Omitted	NC	Common
10	-Vout	Common	Omitted	Omitted
11	+Vout	+Vout	NC	-Vout
12	-Vin	-Vin	Omitted	Omitted
13	-Vin	-Vin	Omitted	Omitted
14	+Vout	+Vout	+Vout	+Vout
15	-Vout	Common	Omitted	Omitted
16	Omitted	Omitted	-Vout	Common
22	NC	Common	+Vin	+Vin
23	NC	-Vout	+Vin	+Vin
24	+Vin	+Vin	Omitted	Omitted

Tolerance:  
x.xx =  $\pm 0.25$ mm

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## 1.5 - 3W Isolated DC/DC-Converters

### Model Code Information

		K* - * * * (H) - (M)					
<b>Series</b>							
K1.5	=	1.5W					
K2	=	2W					
K3	=	3W					
<b>Input Voltages</b>							
05	=	9-18VDC					
12	=	18-36VDC					
24	=	36-72VDC					
<b>Output Voltages</b>							
<b>Single Models</b>							
3.3	=	3.3VDC					
05	=	5VDC					
12	=	12VDC					
15	=	15VDC					
<b>Dual Models</b>							
3.3	=	±3.3VDC					
05	=	±5VDC					
12	=	±12VDC					
15	=	±15VDC					
						<b>Suffix</b>	
						Blank	= Plastic case
						'M' Suffix	= Metal Case
						<b>Isolation</b>	
						Blank	= 1.5kVDC
						'H' Feature	= 3.5kVDC
						<b>Output</b>	
						S	= Single
						D	= Dual

**Ordering Examples:** For availability see Selection Guides on pages 45 and 46

K2-053.3DH-S-M = K-series 2 watt , 9-18VDC input, ±3.3VDC output, dual output, 3.5kVDC isolation, DIP24 package size, metal case