

FEATURES:

- 15 Watt DIL Package
- 4:1 Wide Input Voltage Range
- High Efficiency Up To 91%
- Regulated Output Types
- No Minimum Load Required
- Over Power and Short Circuit Protection
- UL94V-0 Package Material
- 100% Burned In
- UL Recognized
- RoHS Compliant



DC-DC Converter
KR15 Series

15 Watt
1600Vdc Isolated
4:1 Input Voltage Range
Single & Dual Output
DIP24 Package

Specifications typical at TA=25°C nominal input voltage and rated output current unless otherwise specified

Part Number	Input Voltage Range	Input Current (mA TYP)		Output Voltage Range	Output Current mA (typ)	Efficiency % (typ)	Maximum Capacitor Load μ F
		No-Load mA (typ)	Full-Load mA (typ)				
	Vdc	mA (typ)	mA (typ)	Vdc	mA (typ)	% (typ)	μ F
KR15-24S12	9~36	7	702	12	1250	89	1200
KR15-24S24	9~36	7	694	24	625	90	300



Part Number

$\frac{KR}{A}$ $\frac{15}{B}$ - $\frac{XX}{C}$ $\frac{X}{D}$ $\frac{XX}{E}$

- A: Series
- B: Output Power
- C: Input Voltage
- D: Single (S) / Dual Output (D)
- E: Output Voltage



Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Input Voltage	24V models	9		36	Vdc
	48V models	18		75	
Input Surge Voltage (100 ms max.)	24V models	-0.7		50	Vdc
	48V models	-0.7		100	
Start-up Voltage	24V models			9	Vdc
	48V models			18	
Under Voltage Shutdown	24V models		7.5		Vdc
	48V models		16		
Start-up Time	Constant Resistive Load, Nominal Vin	Power-up	30		ms
		Remote ON/OFF	30		
Input Filter	All Models	Internal Pi type			
Remote ON/OFF (Ctrl PIN Refer to -Vin PIN)	Positive Logic	DC-DC ON	Open or 3.5 ~ 12VDC		
		DC-DC OFF	Short or 0 ~ 1.2VDC		
	Input Current of Ctrl Pin	-0.5		0.5	mA
Remote Off Input Current		3			

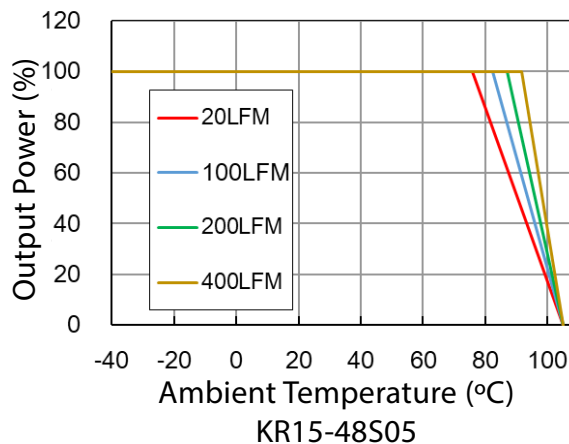
Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	100% Load	-2		+2	%
Line Regulation	Vin (min) to Vin (max) @100% Load	-0.2		+0.2	%
Load Regulation	0% Load to 100% Load	5V Output	-1	+1	%
		Other Outputs	-0.5	+0.5	
Load Cross Regulation	Asymmetrical Load 25% / 100% Load	Dual Output	-5.0	+5.0	%
Ripple & Noise (BW=20MHz)	24Vout			150	mVp-p
	Other Outputs			100	
Transient Response Setting Time	25% Load Step Change		300	500	us
Transient Response Deviation	25% Load Step Change	-5	±3	+5	%
Temperature Coefficient		-0.02		+0.02	%/°C
Output Power Protection	% of Io, Hiccup mode, Auto-recovery	120	150	180	%
Short Circuit Protection	Continuous [Hiccup Mode], Auto-Recovery				
Over Voltage Protection	5Vout		6.2		Vdc
	12Vout		15		
	15Vout		18		
	24Vout		30		

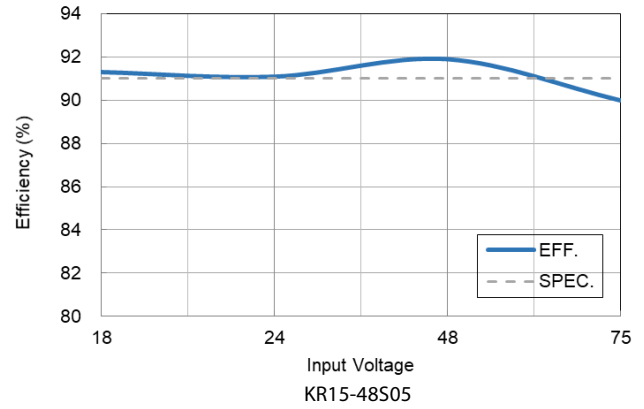
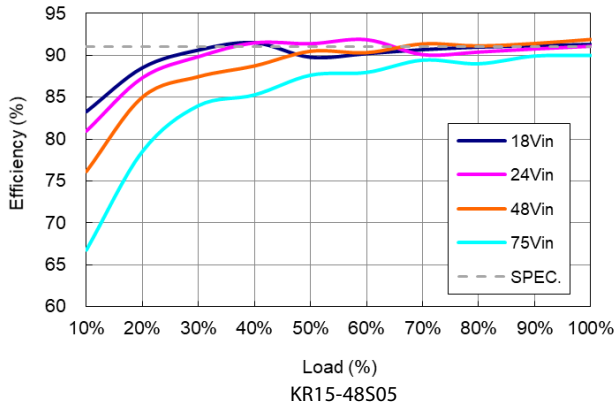
General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Voltage	Input To Output (60 sec)	1600			Vdc
	Input (Output) To Case (60 sec)	1000			Vdc
Isolation Resistance	500Vdc	1000			MΩ
Isolation Capacitance	100kHz, 1V			2200	pF
Switching Frequency	100% Load, Nominal Input	5V Output		250	KHz
		Other Output		330	
Operating Ambient Temperature (Power Derating See Derating Graph)	Nominal Vin, 100% Load	KR15-24S05, KR15-48S05 KR15-48S15, KR15-48S24		+75.9	°C
		KR15-24S12, KR15-24D12		+68.7	
		KR15-24S15, KR15-24S24, KR15-24D15, KR15-48S12, KR15-48D12, KR15-48D15		+72.3	
Thermal Impedance	20LFM			19.6	°C/W
	100LFM			15.3	
	200LFM			12.1	
	400LFM			8.9	
Maximum Case Temperature				+105	°C
Storage Temperature		-55		+125	°C
Humidity	Non Condensing	5		95	%
Cooling	Natural Convection				
Case Material	Copper				
Potting Material	Silicone (UL94-V0)				
MTBF	MIL-HDBK-217F@25°C (calculated)		9.03X10 ⁵		Hours
Weight			17		g
Dimensions	31.6 x 20.1 x 10.0				mm

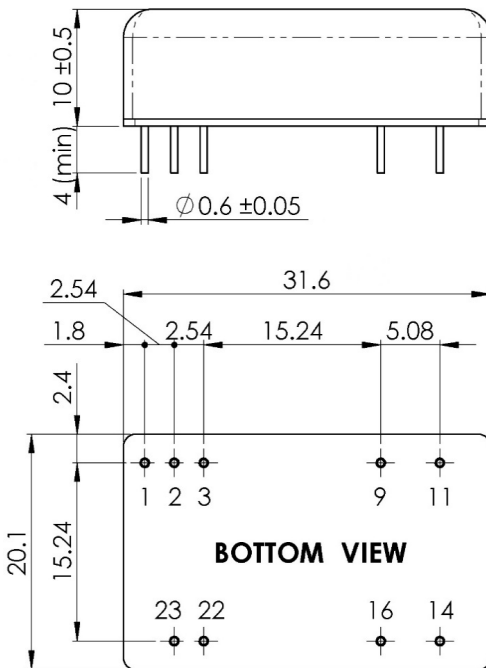
Temperature Derating Graph



Characteristic Curve



Dimensions



UNIT: mm
Tolerances are XX.X±0.5, XX.XX±0.25

PIN Assignment

PIN	Single	Dual	Diameter
1	Ctrl	Ctrl	0.6mm [0.024"]
2	-Vin	-Vin	0.6mm [0.024"]
3	-Vin	-Vin	0.6mm [0.024"]
9	NC	Com	0.6mm [0.024"]
11	NC	-Vout	0.6mm [0.024"]
14	+Vout	+Vout	0.6mm [0.024"]
16	-Vout	Com	0.6mm [0.024"]
22	+Vin	+Vin	0.6mm [0.024"]
23	+Vin	+Vin	0.6mm [0.024"]