

**FEATURES:**

- 10 Watt DIL Package
- 4:1 Wide Input Voltage Range
- High Efficiency Up To 88%
- Regulated Output Types
- No Minimum Load Required
- Over Power and Short Circuit Protection
- UL94V-0 Package Material
- 100% Burned In
- UL Recognized



**DC-DC Converter**  
**UC10 Series**

**10 Watt**  
**1600Vdc Isolated**  
**4:1 Input Voltage Range**  
**Single & Dual Output**  
**DIP16 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 $\mu$ F
		No-Load mA (typ)	Full-Load mA (typ)				
	Vdc			Vdc			
UC10-24S12	9~36	9	479	12	833	87	660
UC10-24S24	9~36	9	483	24	416	88	240
UC10-24D15	9~36	9	473	$\pm$ 15	$\pm$ 333	88	$\pm$ 270



**Part Number**

$\frac{UC}{A} \frac{10}{B} - \frac{XX}{C} \frac{X}{D} \frac{XX}{E}$

- 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		8		Vdc
	48V models		15		
Start-up Time	Constant Resistive Load, Nominal Vin		Power-up	30	ms
Input Filter	All Models			Internal LC type	

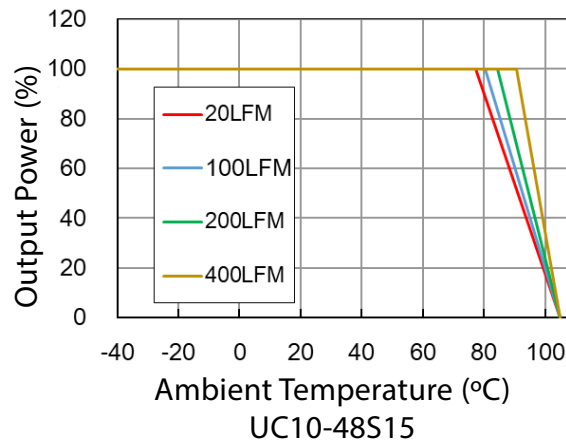
## Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	100% Load	-2		+2	%
Line Regulation	Vin (min) to Vin (max) @100% Load	-0.5		+0.5	%
Load Regulation	0% Load to 100% Load	-0.5		+0.5	%
Load Cross Regulation	Asymmetrical Load 25% / 100% Load	Dual Output		+5.0	%
Ripple & Noise (BW=20MHz)	All models		60	100	mVp-p
Transient Response Setting Time	25% Load Step Change		350	500	us
Transient Response Deviation	25% Load Step Change	-5	±3	+5	%
Temperature Coefficient		-0.03		+0.03	%/°C
Output Power Protection	% of Io, Hiccup mode, Auto-recovery	120	155	190	%
Short Circuit Protection	Continuous [Hiccup Mode], Auto-Recovery				
Over Voltage Protection	5Vout		6.2		Vdc
	12Vout		15		
	15Vout		18		
	24Vout		30		

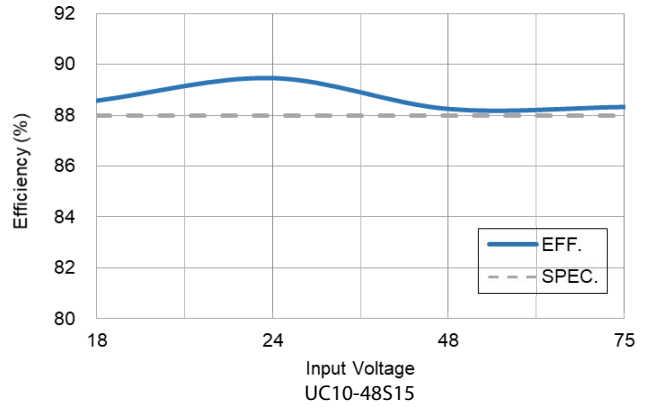
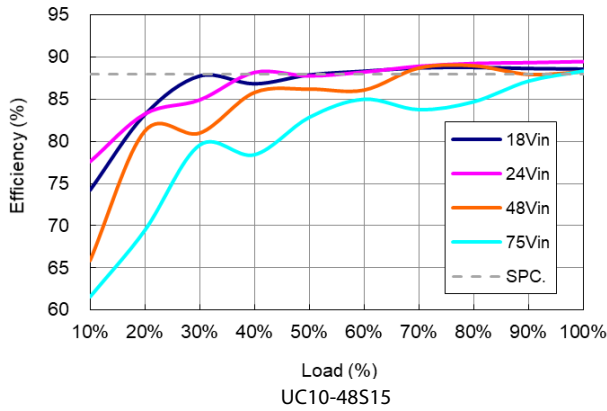
**General Specifications**

Parameters	Conditions	Min	Typ	Max	Units	
Isolation Voltage	Input To Output (60 sec)	1600			Vdc	
Isolation Resistance	500Vdc	1000			MΩ	
Isolation Capacitance	100kHz, 1V			2200	pF	
Switching Frequency	100% Load, Nominal Input		390		KHz	
Operating Ambient Temperature (Power Derating See Derating Graph)	Nominal Vin, 100% Load	-40		UC10-24S05, UC10-48S05	+66	°C
				UC10-24S12, UC10-48S12	+74	
				UC10-24S15, UC10-48S15 UC10-24S24, UC10-48S24 UC10-24D12, UC10-48D12 UC10-24D15, UC10-48D15	+77	
Thermal Impedance	20LFM		20.4		°C/W	
	100LFM		18.1			
	200LFM		15.1			
	400LFM		10.5			
Maximum Case Temperature				+105	°C	
Storage Temperature		-55		+125	°C	
Humidity	Non Condensing	5		95	%	
Cooling	Natural Convection					
Case Material	Copper, Black Coating					
Potting Material	Silicone (UL94-V0)					
MTBF	MIL-HDBK-217F@25°C (calculated)		1.1X10 <sup>6</sup>		Hours	
Weight			10		g	
Dimensions	24.0 x 14.0 x 9.8				mm	

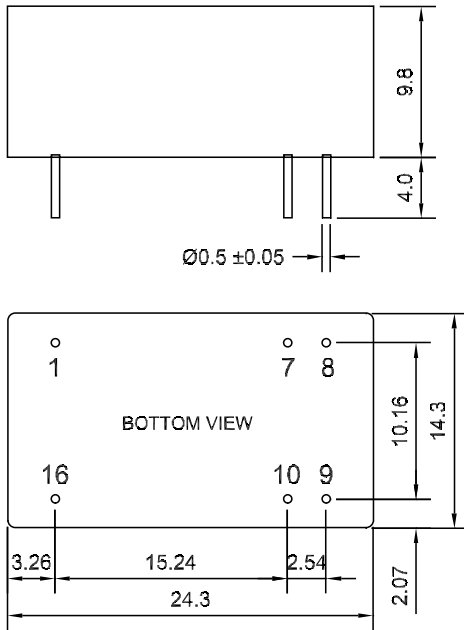
**Temperature Derating Graph**



**Characteristic Curve**



**Dimensions**



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

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

**PIN Assignment**

PIN	Single	Dual	Diameter
1	-Vin	-Vin	0.5mm [0.02"]
7	NC	NC	0.5mm [0.02"]
8	NC	Com	0.5mm [0.02"]
9	+Vout	+Vout	0.5mm [0.02"]
10	-Vout	-Vout	0.5mm [0.02"]
16	+Vin	+Vin	0.5mm [0.02"]