

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



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 μ 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	

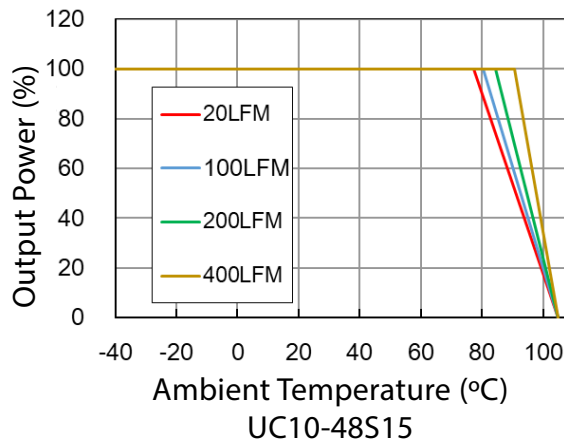
Output Specifications

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	+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		

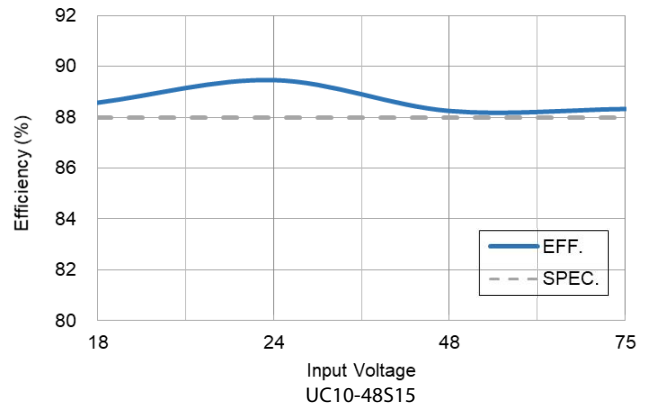
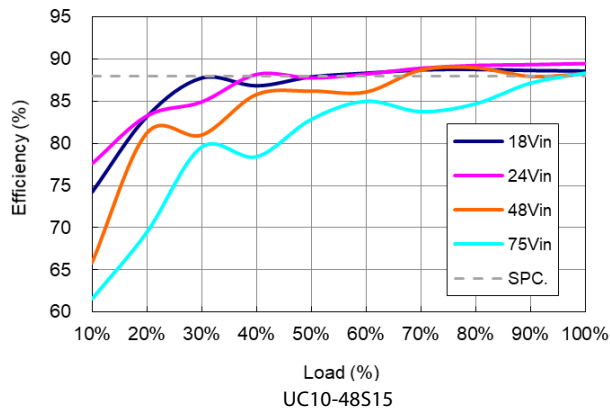
General Specifications

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 ⁶		Hours	
Weight			10		g	
Dimensions	24.0 x 14.0 x 9.8				mm	

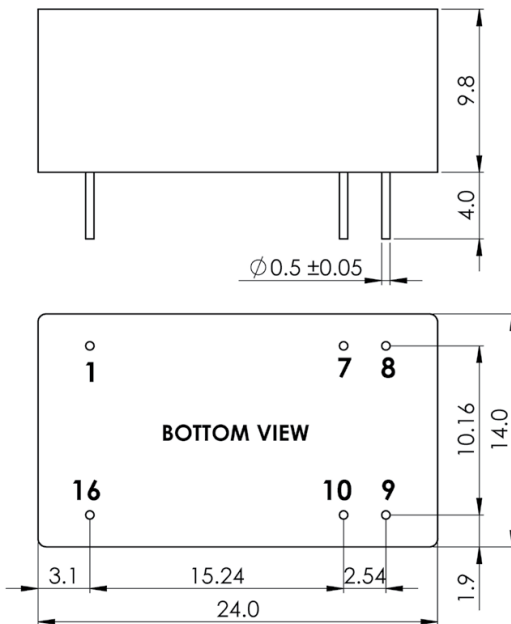
Temperature Derating Graph



Characteristic Curve



Dimensions



UNIT: mm
Tolerances are XX.X \pm 0.5, XX.XX \pm 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"]