

uV24-28-164

24/28 VDC Input / 300 Watts / 3/4 Brick



ABSOLUTE MAXIMUM RATINGS Exceeding absolute maximum ratings may cause permanent damage or reduce reliability					
Parameter	Option	Minimum	Maximum	Units	Conditions
Input Voltage (+ In to -In)		-0.3	36	VDC	Continuous
Transient Input Voltage (+ In to -In)		-0.3	50	VDC	100 msec. Max.
Parallel Pin Voltage (Parallel-On/Off to -In)		-0.3	6.0	VDC	
Input-to-Output Voltage			1500	VDC	
Input-to-Case Voltage			1500	VDC	
Output-to-Case Voltage			500	VDC	
Storage Temperature	Standard	-40	+110	°C	
	T	-55	+110	°C	
	E	-55	+125	°C	
Operating Temperature	Standard	-40	+100	°C	Baseplate
	T	-55	+100	°C	Baseplate
	E	-55	+125	°C	Baseplate
Soldering Temperature (Wave Solder)			260	°C	< 5 sec

ELECTRICAL SPECIFICATIONS Electrical specifications apply for Vin=300VDC, Vout=28VDC, Full Load, Tc=25°C unless specified otherwise					
Input	Minimum	Typical	Maximum	Units	Conditions
Input Voltage Range	18	24 / 28	36	VDC	
Maximum Input Current		19.9		ADC	Vin= 18V, Tc= 25°C
			20.2	ADC	Vin=18V, Tc=100°C
Input Ripple Rejection		60		dB	f= 120Hz
Output	Minimum	Typical	Maximum	Units	Conditions
Voltage Set Point	27.72	28.01	28.28	VDC	
Load Regulation		0.05	0.2	%	0 to Full Load
Line Regulation		0.05	0.2	%	Vin min to Vin max
Voltage Drift w/Temperature			0.02	% / °C	Tc min to Tc max
Ripple (PAR)		170	300	mV p-p	Vin= 28V, Tc= 25°C
			450	mV p-p	18V ≤ Vin ≤ 36V, -40°C ≤ Tc ≤ +100°C
Rated Current	0		11	A	
Overcurrent Inception Point	105	115	130	% Rated	Vout = 95% Vout nominal
Short Circuit Current			170	% Rated	18V ≤ Vin ≤ 36V, Rshort=15 mOhm
Transient Response Deviation		1400		mV	20-80% Rated Current, 0.5A/μs
Transient Response Settling Time		200		μs	20-80% Rated Current, 0.5A/μs
Efficiency		88.5		%	Vin= 28V, Iout= 75% Rated
Isolation	Minimum	Typical	Maximum	Units	Conditions
Input-to-Output	1500			VDC	Consult factory for procedure
Input-to-Case	1500			VDC	
Output-to-Case	500			VDC	
Input-to-Output Capacitance		2500		pF	
Input-to-Output Resistance	10			M Ohm	500V

ELECTRICAL SPECIFICATIONS <small>Continued</small>						
Control	Option	Minimum	Typical	Maximum	Units	Conditions
Over Temperature Shutdown Temp (Tc)	Standard and T		105		°C	
	E		130			
Over Temperature Restart Temp (Tc)	Standard and T		85		°C	
	E		105			
Start-up Voltage		16.5	17.0	17.5	VDC	
Input Under Voltage Lock Out		15.0	15.5	16.0	VDC	
Turn-on Time			5	10	msec	18V ≤ Vin ≤ 36V, Tc = 25°C
					12	msec
Logic On/Off Enable Signal			Open		VDC	Positive Logic, open collector enables. Do not pull up.
Logic On/Off Disable Signal				0.6	VDC	I On/Off = 1mA
Logic On/Off Turn-on Time			5	10	msec	
Trim Range		25.2		30.8	VDC	See Trim Formula and Diagrams
OVP Trip Point		31.2	32.9	35.0	VDC	Non-shutdown, Auto Recovery, Iout = 50% Rated
Remote Sense Compensation				0.5	VDC	
Current Sharing (Parallel Operation)			5		%	Using Parallel Pin Connection or PDM
Switching Frequency			370		KHz	Standard Model
			300		KHz	-S Sync Option Model
Synchronization Frequency Range		330		440	KHz	Using Optional Sync Pin and External Sync Signal
Thermal / Mechanical Parameters		Minimum	Typical	Maximum	Units	Conditions
Thermal Resistance, Case to Ambient			4.2		°C/W	Free Air, No Heatsink, Tc = 100°C
Size, HxWxL			0.5 x 2.4 x 3.6 (12.7 x 61.0 x 91.4)		in (mm)	3/4 Brick, See Outline Drawing
Weight			5.7 (161)		oz. (g)	

TRIM

Trim Down

Trim Up

$$R_{\text{trim-up}} = \frac{62.75\text{K } \Omega}{\Delta V}$$

$$R_{\text{trim-down}} = \frac{1109 - 41.83 \Delta V}{\Delta V} \text{ K } \Omega$$

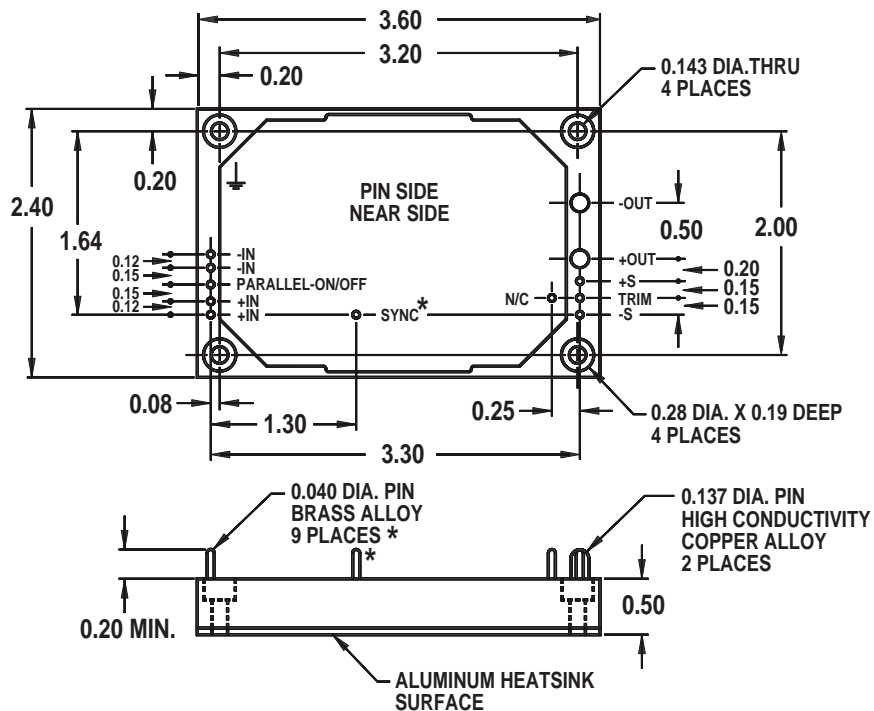
$\Delta V = | \text{Desired Output Voltage Change (Volts)} |$
 $R_{\text{trim-up}} = \text{External Resistor Value to Increase } V_{\text{out}}$
 $R_{\text{trim-down}} = \text{External Resistor Value to Decrease } V_{\text{out}}$

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OUTLINE DRAWING Dimensions in Inches



NOTE:

Pin finish is gold over nickel, JESD97
2nd level interconnect category e4.

* 10 places when ordering sync option.
Location of optional sync pin shown.

NOTES