PART NUMBER: VSCQ30 **DESCRIPTION:** dc-dc converter

features
- **20-30W isolated output**
- **high efficiency to 91%**
- **fixed 300KHz switching frequency**
- **4:1 wide input range**
- **regulated outputs**
- **continuous short circuit protection**
- **six-sided metal case**
- **2"x1.6" size**
- **industry standard pin-out**



RoHS

model number	input voltage[1]	output voltage	output current min.	output current max.	input current no load	input current full load	efficiency
VSCQ30-Q24-S3R3	9-36VDC	3.3VDC	0mA	7500mA	50mA	1185mA	87%
VSCQ30-Q24-S5	9-36VDC	5VDC	0mA	6000mA	60mA	1404mA	89%
VSCQ30-Q24-S12	9-36VDC	12VDC	0mA	2500mA	80mA	1374mA	91%
VSCQ30-Q24-S15	9-36VDC	15VDC	0mA	2000mA	50mA	1389mA	90%
VSCQ30-Q48-S3R3	18-75VDC	3.3VDC	0mA	7500mA	30mA	579mA	89%
VSCQ30-Q48-S5	18-75VDC	5VDC	0mA	6000mA	30mA	694mA	90%
VSCQ30-Q48-S12	18-75VDC	12VDC	0mA	2500mA	40mA	687mA	91%
VSCQ30-Q48-S15	18-75VDC	15VDC	0mA	2000mA	50mA	694mA	90%

NOTE:
1. nominal input voltage 24, 48 VDC

INPUT

input voltage range	24V	9-36V
	48V	18-75V
under voltage lockout	24Vin power up	8.8V typ.
	24Vin power down	8.0V typ.
	48Vin power up	17V typ.
	48Vin power down	16V typ.
input filter type		PI type
positive logic remote on/off control		see note 3&4

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OUTPUT

voltage accuracy		±1.5% max.
transient response: 75%-100% step load change		
error band		±5% Vout nominal
recovery time		<300µ sec.
external adjustment range, %Vo		±10%
ripple & noise, 20MHz BW (measured with 0.1uF MLCC)		
3.3V & 5V		20mV RMS., max 75mV pk-pk, max.
12V & 15V		20 mV RMS, max. 100mV p-p, max
temperature coefficient		±0.02%/°C
short circuit protection		continuous (hiccup mode)
line regulation[1]		±0.5% max
load regulation[2]		±0.5% max
over voltage protection (Zener or TVS clamp)		
3.3V		3.9V
5V		6.2V
12V		15V
15V		18V
current limit, % nominal output		110% ~ 150%

GENERAL SPECIFICATIONS

efficiency		see table
isolation voltage		1500VDC min.
isolation resistance		10^8 ohms min
switching frequency	24Vin	300KHz, typ.
	48Vin	250KHz, typ.
operating temperature range		-40°C to +85°C
derating, above 60°C		linearly to zero power at +100°C
case temperature		100°C max.
cooling		natural convection
storage temperature		-55°C to +125°C
thermal shutdown, case temp.		110°C, typ.
dimensions		2.0x1.6x0.40 inches
		(50.8x40.6x10.2mm)
case material		black coated copper with non-conductive base

NOTES:

1. measured from high line to low line
2. measured from full load to 10% load
3. remote on/off control:
   logic compatibility CMOS or open collector TTL
   EC-ON >+3.5VDC to 75Vdc or open circuit
   EC-OFF <1.2VDC
4. suffix "N" to the model number with negative logic remote on/off
   EC-ON <1.2VDC
   EC-OFF >+3.5VDC to 75Vdc or open circuit
5. maximum case temperature under any operating condition should not exceed 100°C

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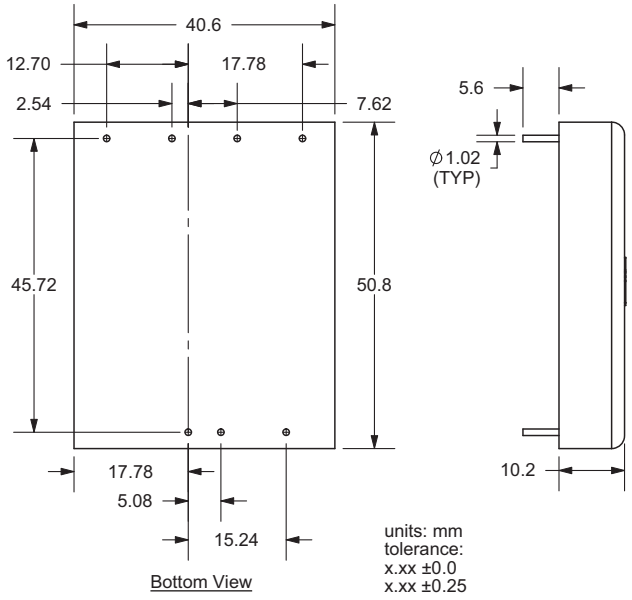
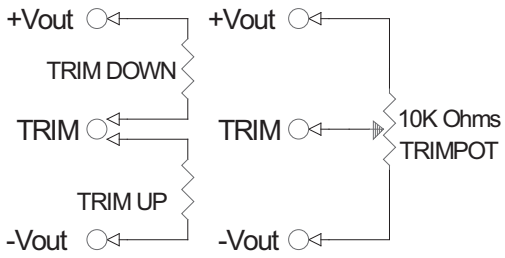
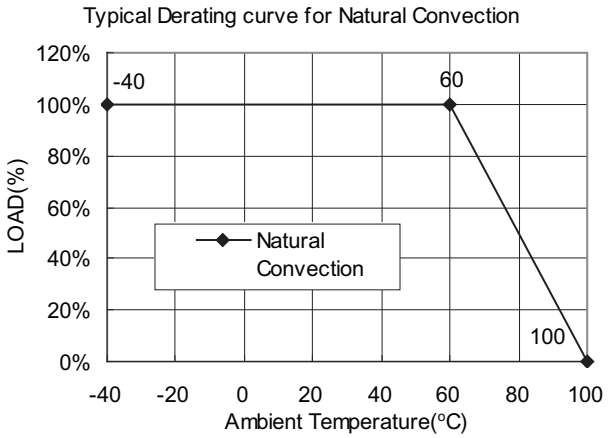
DIMENSIONS (mm)



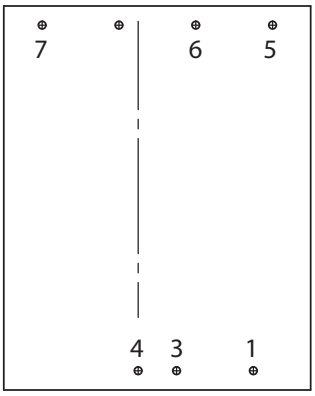
EXTERNAL OUTPUT TRIM



DERATING CURVE



PIN MAPPING



pin	function
1	on/off control
3	-Vin
4	+Vin
5	Trim
6	-Vout
7	+Vout