



Discontinued

FEATURES

- Meets VRM 10.1 and VRM 10.2 Requirements
- DAC Programmable Output Voltage
- Power Good Output
- Differential Remote Sense
- Remote Enable
- Supervisory Functions
 - Output Overcurrent
 - Short Circuit Protection
 - Overtemperature Indicator
 - Output Current Level Signal
- Tri-state Output when Disabled
- Dynamic VID Capability
- 1U Form Factor (1.250" total mating height)

SELECTION GUIDE				
	Input Voltage	Output Voltage	Output Current	Efficiency
	V (NOM.)	V	A	% (TYP.)
	12	0.8375 - 1.600	150	85.5

INPUT CHARACTERISTICS					
Parameter	Conditions ¹	MIN.	TYP.	MAX.	Units
Input voltage operating range		11.04	12.0	12.60	V
Under voltage lockout	Turn-on threshold	6.5	6.9	7.3	
	Turn-off threshold	5.4	6.0	6.6	
	Hysteresis voltage	0.7	0.9	1.1	
Maximum input current VRM 10.1 Levels	Typical: 105A 1.325VID		13		A
	Max: 120A 1.6VID			18	
Maximum input current VRM 10.2 Levels	Typical: 130A 1.325VID		15.3		A
	Max: 150A 1.6VID			21	
No-load input current	Enable state, no load	200	320	400	mA
Disabled input current	Disabled state	20	30	50	
Enable - positive logic	On state range	0.8		5.0	Vdc
	Off state range	-0.3		0.4	
LLO and LL1	High State Range	0.8		3.5	Vdc
	Low State Range	-0.3		0.4	

OUTPUT CHARACTERISTICS					
Parameter	Conditions ¹	MIN.	TYP.	MAX.	Units
Voltage set point	6-Bit DAC controlled	0.8375		1.600	
Line regulation		-5	0	5	mV
Load regulation			1.25		mΩ
Voltage total regulation				VID-40	mV
Ripple & noise ²	20MHz bandwidth		6.4		mVp-p
Current operating range		0		150	A
Efficiency for 10.1 TDP	Io = 105 Amps VID = 1.325	86	87		%
Efficiency for 10.2 TDP	Io = 130 Amps VID = 1.325	84	85.5		%
Turn-on Time	Vin present: Enable to 90% Vout			50	mS
Transient Response ³	100A step, 100A/μS, ΔVo, Adjustable	115		135	mV
Remote Sense Compensation Range ⁴				300	mV
Recommended Bulk Output Capacitance for 10.1 Applications	UCC 4PS560MH11 or equivalent		14		EA
Recommended Bulk Output Capacitance for 10.2 Applications	UCC 4PS560MH11 or equivalent		16		EA

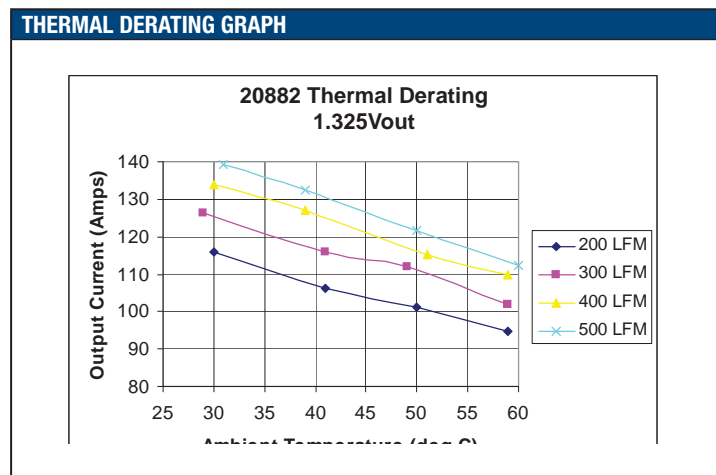
GENERAL CHARACTERISTICS					
Parameter	Conditions ¹	MIN.	TYP.	MAX.	Units
Semiconductor junction temperature	Package rated to 150°C			115	°C
Material flammability	UL 94V-0				
MTBF	Calculated (RAC PRISM) @ 45°C		1.10		x10 ⁶ Hrs
Switching frequency	Per phase		300		KHz
Dimensions	3.8"L x 1.18"H x 1.0"W				
Weight			59		g
Voltage Droop for 100A Load (linear)	LLO = X, LL1 = X		125		mV



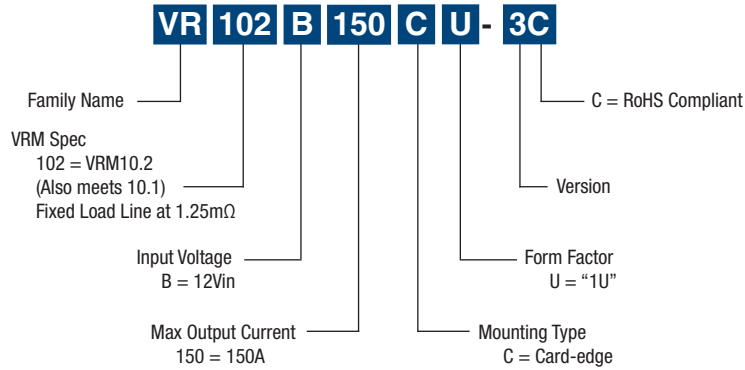
TEMPERATURE CHARACTERISTICS					
Parameter	Conditions ¹	MIN.	TYP.	MAX.	Units
Storage temperature range	Non-condensing	-40		70	°C
Operating temperature range	See derating graph	0		60	

PROTECTION CHARACTERISTICS					
Parameter	Conditions ¹	MIN.	TYP.	MAX.	Units
Output overcurrent shutdown	Latching	155		210	A
Overvoltage Shutdown	Above VID	90		200	mV
Overtemperature Indicator	Non-Latching, at hot spots Worst case junction temperature		125		°C
Load Indicator	VID = 1.325, 0 A Load VID = 1.325, 100 A Load		1 3.75		V

1. Vin = 12Vdc, Ta = 25°C, Airflow = 400LFM unless otherwise noted.
2. Output Ripple Voltage is specified when measured with Intel specified capacitance at the output of the converter.
3. Transient response is specified with Intel specified capacitors at the output of the converter.
4. If remote sense is not required or used, the Sense(+) and Sense(-) pins must be connected to Vo(+) and Vo(-) respectively.
5. LL0, LL1 gives 1.25mOhm Load Line only.
6. VRM_PRES and VRM_ID are connected to Vss on the VRM.

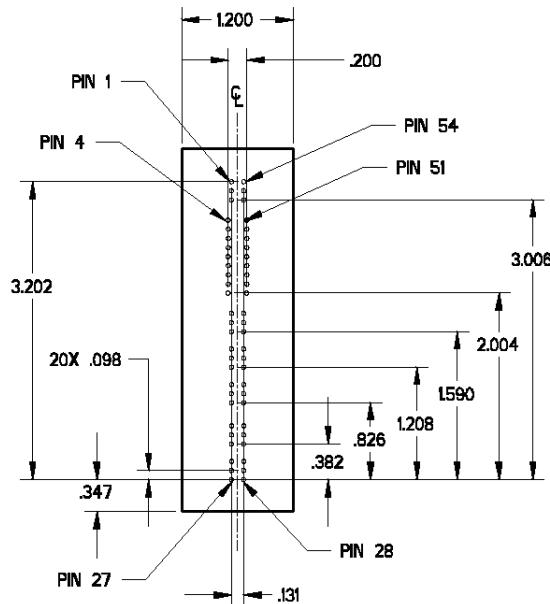


PART NUMBER CODING



PIN ASSIGNMENT

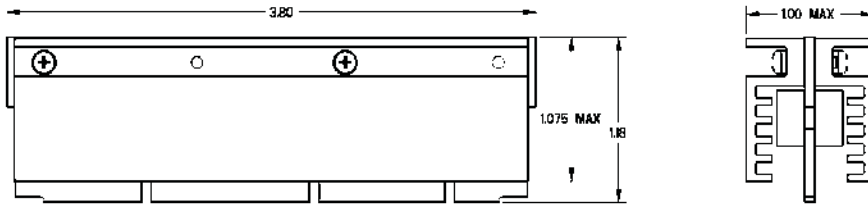
1	VSS
2	VSS
3	VSS
4	VID4
5	VID2
6	VID0
7	Vo_sen+
8	PWRGD
9	OUTEN
10	Load Current
11	N/C
(6) 12	VRM_PRES
13	VO+
14	VO+
15	VO+
16	VSS
17	VSS
18	VSS
19	VO+
20	VO+
21	VO+
22	VSS
23	VSS
24	VSS
25	VO+
26	VO+
27	VO+



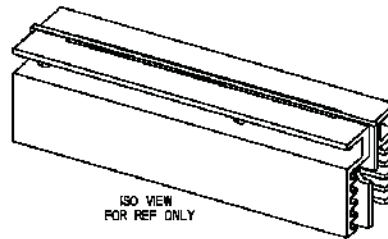
54	VIN+
53	VIN+
52	VIN+
51	VID3
50	VID1
49	VID5
48	VO_SEN-
47	VR_HOT
46	LL0 (5)
45	LL1
44	N/C
43	VRM_ID (6)
42	VO+
41	VO+
40	VO+
39	VSS
38	VSS
37	VSS
36	VO+
35	VO+
34	VO+
33	VSS
32	VSS
31	VSS
30	VO+
29	VO+
28	VO+

NOTE :
CHECK WITH MANUFACTURER FOR RECOMMENDED PCB LAYOUT.

MECHANICAL DIMENSIONS



TOTAL MATING HEIGHT 1.25
 TOLERANCES ARE:
 X ± .1
 XX ± .03
 XXX ± .010



Recommended Interface Connector Options
 Tyco/Elcon 283-0172-01303 (Solder Tail, Long)
 283-0172-02303 (Solder Tail, Short)
 284-0202-03003 (Surface Mount)

RoHS Compliance

The VR102B150CU-3C is in compliance with the European Union Directive 2002/95/EC (RoHS) with respect to the following substances: lead (Pb), cadmium (Cd), mercury (Hg), hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE).

RoHS Process Note

This product is not intended to go through a reflow solder process. See recommended interface connector options.

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This product is subject to the following **operating requirements** and the **Life and Safety Critical Application Sales Policy**:
 Refer to: <http://www.murata-ps.com/requirements/>

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