



HSM200S

DC/DC Converter

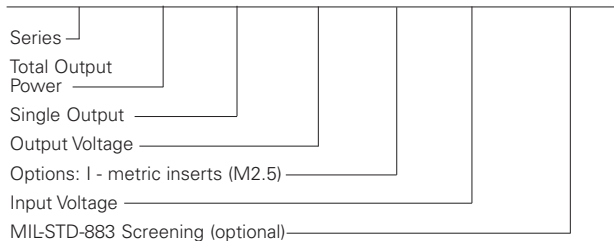
270Vdc Input

200 WATTS SINGLE OUTPUT



How to Order:

HSM 200 S / 5.2 - I (270) 883



Standard unit is 270Vdc nominal input with pins out the top written as HSM200S/5.2(270).

INPUT CHARACTERISTICS

	Min.	Typ.	Max.	Units
Input Voltage	200	270	400	Vdc
Brown Out (75% of Full Load)	175			Vdc
No Load Power Dissipation		10	15	Watt
Inrush Charge		1.5		mC
Reflective Ripple Current		15		%
Logic Disable Current (Sink)		0.1	0.8	mA
Logic Disable Power In		1	3	W
Input Ripple Rejection (120Hz)		60		dB
Input Overvoltage (No Damage)	400		500	Vdc
Efficiency (FL)		70-75		%
Efficiency (2V & 3.3V)		60-65		%
EMI: Units conform to MIL-STD-461D (on the input leads) with companion filter				
Input Transient: Units conform to MIL-STD-704D (500Vdc for 0.1 second)				

FEATURES

- No Derating From -55 to +100°C
- Parallelable Operation
- Synchronization
- Fixed Frequency Power Conversion
- MIL-STD-833C Screening Available
- 100% Environmental Screening (M Models)
- Meets MIL - Standard: MIL-STD-454, P4855-1A, MIL-STD-704D, MIL-STD-810E and MIL-S-901C

SELECTION CHART (270 VDC INPUT)

Nominal Output Voltage (Volts)	Output Current (Amps)	Model Number
2.0	40	HSM200S/2.0
3.3	40	HSM200S/3.3
5.0	40	HSM200S/5.0
5.2	38	HSM200S/5.2
12	20	HSM200S/12
15	16	HSM200S/15
24	11	HSM200S/24
28	10	HSM200S/28
48	5.0	HSM200S/48

OUTPUT CHARACTERISTICS

	Min	Typ	Max	Unit
Set Point Accuracy			1*	%Vout
Load Regulation		0.02	0.2 ¹	%Vout
Line Regulation		0.02	0.2 ²	%Vout
Ripple P-P (25MHz) [fig IV]		1	3 ³	%Vout
Trim Range (5V, 5.2V min=85%)	60		115	%Vout
Trim Range (2V, 3.3V)	100		115	%Vout
Remote Sense Compensation		0.5		Vdc
Overvoltage Protection		115	125	%Vout
Current Sharing		±10		%Iout
Transient Response (Vout 1%)				
Time / Overshoot (fig.V, VI)				
20 - 80% Load		400/400 ⁴		µS/mV
Low Line - High Line		400/400 ⁵		µS/mV
50 - 100%		400/400 ⁶		µS/mV
Temperature Drift		0.01	0.02	%/°C
Long Term Drift		0.01	0.02	%/1KHrs
Current Limit	105		150	%Iout
Short Circuit Current (Burp Mode)		50		%Iout
Turn On Time [fig XI]		100		mS
Logic Turn On time [fig IX]		100		mS
Tracking Accuracy		N / A		

* 1% or 50mV, whichever is greater
¹ 0.2% or 25mV, whichever is greater
² 0.1% or 25mV, whichever is greater
³ 3% or 150mV, whichever is greater
⁴ 3% or 400mV, whichever is greater
⁵ 5% or 400mV, whichever is greater
⁶ 2% or 400mV, whichever is greater



**HSM200S(270) HI-DENSITY
DC TO DC CONVERTERS**

TEMPERATURE CHARACTERISTICS

	Min.	Typ.	Max.	Units
Operating (Case)	-55		+100	°C
Storage (Ambient)	-55		+125	°C
Over Temperature Shutdown		+105		°C
Thermal Resistance Case (Ambient)		5		°C/W

ISOLATION CHARACTERISTICS

	Min.	Typ.	Max.	Units
Isolation:				
Input to Output	1000			Vdc
Output to Case	500			Vdc
Input to Case (270Vdc in)	1000			Vdc
Input to Output Capacitance	0.01		0.03	µF
Insulation Resistance (@50 Vdc)	50			MOhm

MIL-STD-883 SCREENING (OPTIONAL)

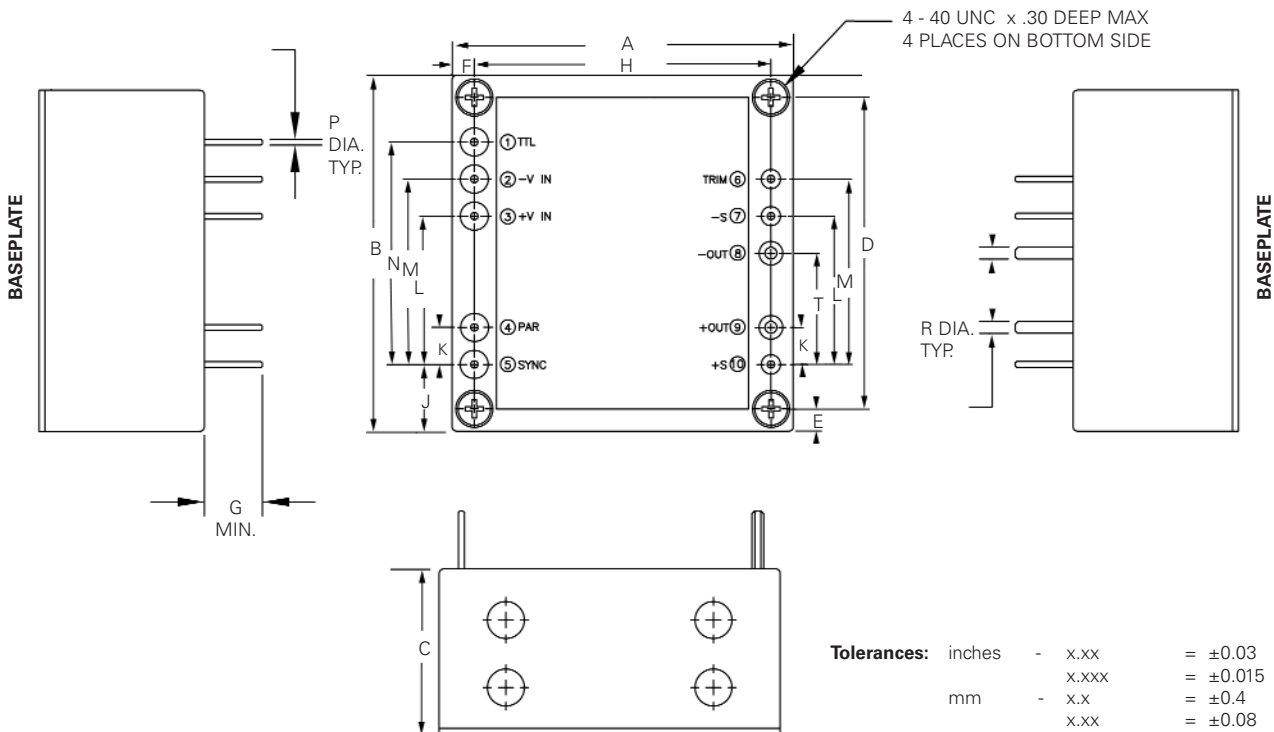
Stabilization Bake:	+125°C for 24 hours per MIL-STD-883, M1008.2, Condition B
Temperature Cycling:	10 cycles at -55°C to +125°C (transition 5°C/minute) per MIL-STD-883, M1010, Condition B
Burn in:	160 hours @ 85°C at full load
Final Testing	

MECHANICAL CHARACTERISTICS

Weight	10.42	oz.
	295.50	grams
Size	2.40 x 2.30 x 1.12	inch
	60.96 x 58.42 x 28.45	mm
Volume	6.18	inch ³
	101.32	cm ³
Material	Pin	Brass (Solder Plating)
	Case	Aluminum 5052-H32
Finish	Nickel Plating	

CASE DRAWINGS

**TOP VIEW
(MARKING SURFACE)**



Tolerances:

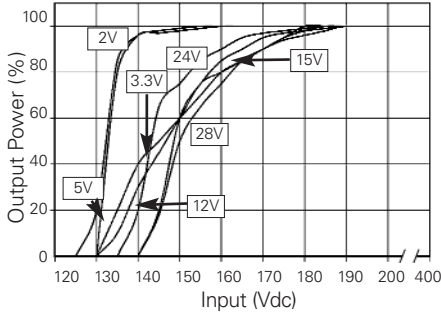
inches	-	x.xx	= ±0.03
		x.xxx	= ±0.015
mm	-	x.x	= ±0.4
		x.xx	= ±0.08

	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T
inch	2.30	2.40	1.120	2.100	.150	.150	.38	2.000	.450	.250	1.000	1.250	1.500	.040	.080	.750
mm	58.4	61.0	28.45	53.34	3.81	3.81	9.7	50.80	11.43	6.35	25.40	31.75	38.10	1.02	2.03	19.05

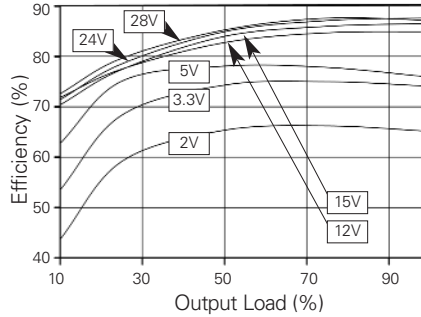


Performance Characteristics

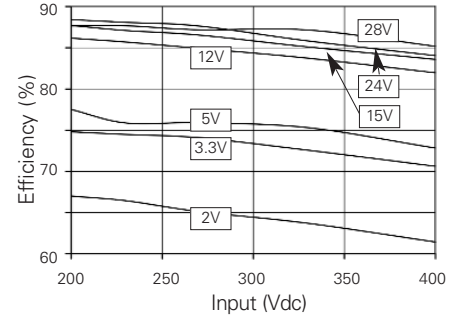
I. Input Voltage vs. Output Power



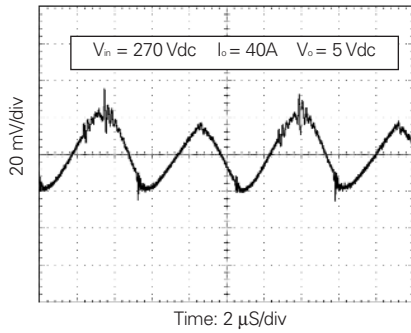
II. Efficiency vs. Output Voltage



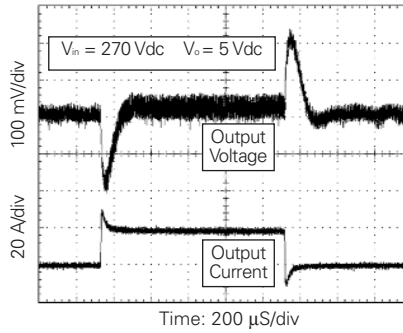
III. Efficiency vs. Input Load



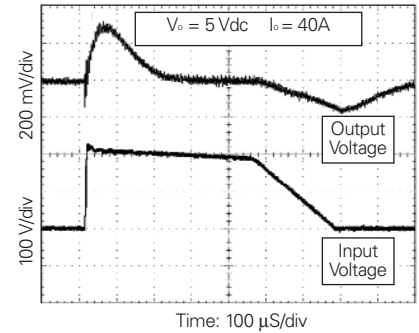
IV. Output Voltage Ripple



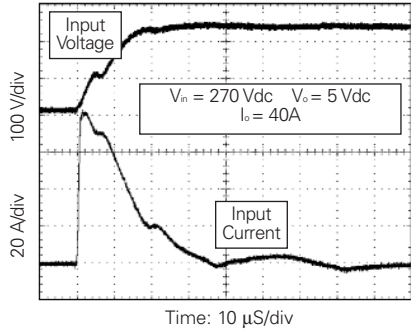
V. Load Transient Response



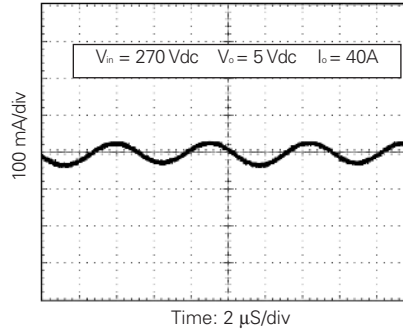
VI. Input Transient Response



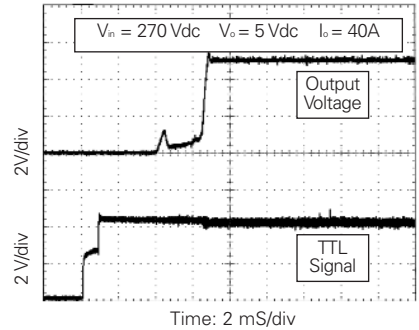
VII. Input Rush Current



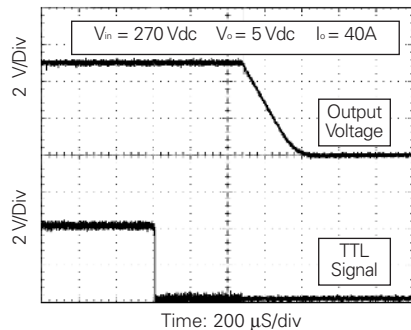
VIII. Input Current Ripple



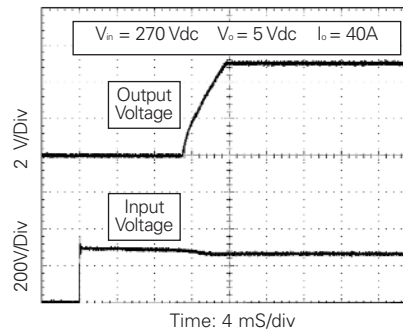
IX. TTL Turn On



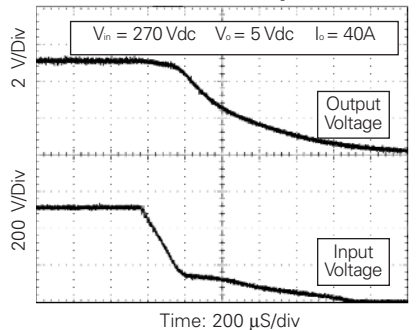
X. TTL Turn-off



XI. Turn On



XII. Turn Off / Hold-up Time





BLOCK DIAGRAM

