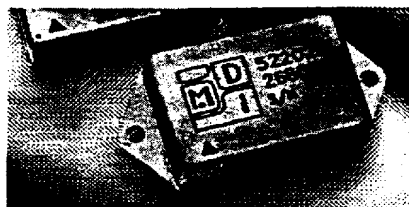


15-30 Watt HYBRID

RAD HARD DC-DC CONVERTERS

FULL FEATURE SERIES 2680R



AVAILABLE WITH OR WITHOUT FLANGES

Features

- Specifically designed for redundant or individual space applications
- Completely self contained Thick Film Hybrid DC-DC Converter
- No external filter caps required
- Fully isolated design
- For MIL-STD 704/1275 applications
- T²L inhibit function
- Power on soft start
- 200 kHz operation for low ripple and fast response time
- RAD hard, 10⁵ total dose
- Built-in EMI input filter meets MIL-STD 461C requirements CEO3, CEO7, CS01, CS02 and CS06
- Short circuit and overvoltage protection with externally selectable wiring option which yields latching/non-latching option
- Non-latching reset interval is externally programmable by choosing a capacitor to select the time constant.
- Capability of external synch for switching frequencies
- Built-in test capability with T²L interface
- "S" level configuration available

Specifications

INPUT: 28VDC nominal

Range: 16 VDC to 50 VDC continuous

Survives 80 V transients

OUTPUT: Voltage & Current (see chart)

REGULATION: (see chart)

RIPPLE: 50 mV peak-to-peak, typical

ISOLATION:

Input to case: 500 VDC

Input to output: 500 VDC*

(* inputs shorted to case, outputs shorted together)

ENVIRONMENT:

Full power from - 55°C to +85°C T_{case}

Linearly derates to zero from 85°C to 115°C

Storage temperature: -55°C to +150°C

Shock: 50G

Acceleration: 500G

Vibration: 30G

WEIGHT: 50 grams

DIMENSIONS: 2.15" x 1.34" x 0.495"

(without flange)

		SINGLE OUTPUT DEVICES								
		2680R-S03.3 (30W)			2680R-S05 (30W)			2680R-S05.2 (30W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output Voltage	—	+3.2	+3.3	+3.4	+4.9	+5.0	+5.1	-5.1	-5.2	-5.3
Output Current	V _{in} = 16-50 VDC	—	—	6.06 A	—	—	6 A	—	—	5.76 A
Efficiency	P _{out} = Max Rated Load	65%	68%	—	72%	75%	—	72%	75%	—
Line Regulation	P _{out} = Max Rated Load V _{in} = 16-50 VDC	—	7 mV	20 mV	—	7 mV	20 mV	—	10 mV	20 mV
Load Regulation	P _{out} = 0-30 W	—	5 mV	20 mV	—	5 mV	20 mV	—	10 mV	20 mV
Output Ripple	Full Load BW 2 MHz mV _{rms}	—	30	50	—	30	50	—	30	65

		SINGLE OUTPUT DEVICES								
		2680R-S12 (30W)			2680R-S15 (30W)			2680R-S28 (30W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output Voltage	—	+11.9	+12.0	+12.1	+14.9	+15.0	+15.1	+27.8	+28.0	+28.2
Output Current	V _{in} = 16-50 VDC	—	—	2.5 A	—	—	2 A	—	—	1.07 A
Efficiency	P _{out} = Max Rated Load	80%	82%	—	81%	83%	—	82%	84%	—
Line Regulation	P _{out} = Max Rated Load V _{in} = 16-50 VDC	—	10 mV	20 mV	—	10 mV	20 mV	—	10 mV	20 mV
Load Regulation	P _{out} = 0-30 W	—	10 mV	20 mV	—	10 mV	20 mV	—	10 mV	20 mV
Output Ripple	Full Load BW 2 MHz mV _{rms}	—	30	65	—	30	65	—	30	65

		DUAL OUTPUT DEVICES								
		2680R-D05 (20W)			2680R-D12 (30W)			2680R-D15 (30W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output Voltage	—	+4.9	+5.0	+5.1	+11.9	+12.0	+12.1	+14.9	+15.0	+15.1
Output Current	V _{in} = 16-50 VDC	150 mA	—	2 A	95 mA	—	1.25 A	76 mA	—	1 A
Efficiency	P _{out} = Max Rated Load	72%	75%	—	81%	84%	—	82%	85%	—
Line Regulation	P _{out} = Max Rated Load V _{in} = 16-50 VDC	—	10 mV	25 mV	—	10 mV	25 mV	—	10 mV	25 mV
Load Regulation	P _{out} = 2-20 or 3-30 W	—	20 mV	50 mV	—	20 mV	50 mV	—	20 mV	50 mV
Output Ripple	Full Load BW 2 MHz mV _{rms}	—	50	85	—	50	85	—	50	85

Notes: * Up to 90% full power available from either output if rated output power is not exceeded; † Balanced load conditions.

		TRIPLE OUTPUT DEVICES								
		2680R-T12 (15W)			2680R-T15 (15W)					
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output Voltage	+V ₁ = -V ₂	MAIN	+4.9	+5.0	+5.1	+4.9	+5.0	+5.1		
		DUAL	+11.9	+12.0	+12.1	+14.9	+15.0	+15.1		
Output Current	V _{in} = 16-50 VDC	MAIN	60 mA	—	2 A	60 mA	—	2 A		
		DUAL	15 mA	—	±208 mA	17 mA	—	±167 mA		
Efficiency	P _{out} = Max Rated Load	MAIN	74%	76%	—	74%	76%	—		
		DUAL	—	0.1%	0.2%	—	0.1%	0.2%		
Line Regulation	V _{in} = 16-50 VDC	MAIN	—	0.25%	0.4%	—	0.25%	0.4%		
		DUAL	—	0.25%	0.4%	—	0.25%	0.4%		
Load Regulation	P _{out} = 1.5-15 W	MAIN	—	0.2%	0.4%	—	0.2%	0.4%		
		DUAL	—	0.25%	0.4%	—	0.25%	0.4%		
Output Ripple	Full Load BW 2 MHz mV _{rms}	MAIN	—	—	80	—	—	80		
		DUAL	—	—	30	—	—	30		

We can modify these units to meet your custom converter requirements.

MODULAR DEVICES INC

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