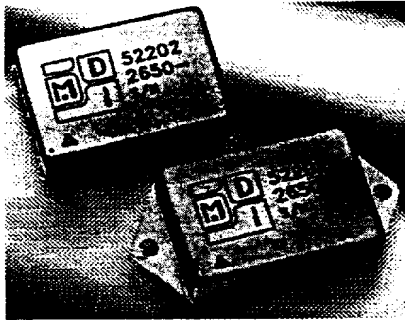


15-30 Watt HYBRID

T-57-11

DC-DC CONVERTERS

SERIES 2650



AVAILABLE WITH OR WITHOUT FLANGES

Features

- Completely self contained Thick Film Hybrid DC-DC Converter
- For MIL-STD-704/1275 applications
- Internal EMI filter
- T²L inhibit function
- Fully isolated design
- Single, dual or triple outputs
- Current limiting, power on soft start
- 200 kHz operation for low ripple and fast response time
- No external filter caps required
- High reliability screening available, specify "M" (e.g. 2650M-T15)
- Full hermetic package
- "S" level configuration available
- Radiation hardened available

Specifications

INPUT: 28VDC nominal

Range: 16 to 50 VDC continuous.

Survives 80 V transients

OUTPUT: Voltage & Current (see chart)

REGULATION: (see chart)

RIPPLE: 50 mV peak-to-peak, typical

PROTECTION: Short circuit protection by current limit.

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: 1.345" x 1.945" x 0.495"

(without flange)

		SINGLE OUTPUT DEVICES								
		2650-S03.3 (20W)			2650-S05 (30W)			2650-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%	69%	—	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 _{in} = 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								
		2650-S12 (30W)			2650-S15 (30W)			2650-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 _{in} = 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								
		2650-D05 (20W)			2650-D12 (30W)			2650-D15 (30W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output Voltage	V _{in} = 16-50 VDC	+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 _{in} = 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											
		2650-T12 (15W)			2650-T15 (15W)								
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX			
Output Voltage	V _{in} = 16-50 VDC	MAIN	+4.9	+5.0	+5.1	DUAL	+11.9	+12.0	+12.1	DUAL	+14.9	+15.0	+15.1
Output Current	V _{in} = 16-50 VDC	MAIN	60 mA	—	2 A	DUAL	15 mA	—	±208 mA	DUAL	17 mA	—	±167 mA
Efficiency	P _{out} = Max Rated Load	MAIN	74%	76%	—	DUAL	—	—	—	DUAL	74%	76%	—
Line Regulation	P _{out} = Max Rated Load V _{in} = 16-50 VDC	MAIN	—	0.1%	0.2%	DUAL	—	0.25%	0.4%	DUAL	—	0.1%	0.2%
Load Regulation	P _{in} = 1.5-15 W	MAIN	—	0.2%	0.4%	DUAL	—	0.2%	0.4%	DUAL	—	0.2%	0.4%
Output Ripple	Full Load BW 2 MHz mV _{rms}	MAIN	—	—	80	DUAL	—	—	30	DUAL	—	—	30

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

MODULAR DEVICES INC

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