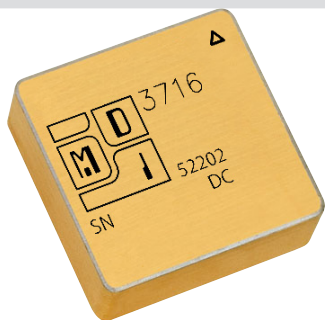


Series 3716

6 Watt DC – DC Converters



28 Volts DC Input

Features

- Specifically designed for demanding military and aerospace applications where best value is critical.
- High efficiency
- No external components required
- Fully isolated design
- Magnetic feedback - no optocouplers used
- Input ripple current inductor
- Output common mode spike filter
- "Inhibit-not" function
- Power on soft start
- Short circuit protection
- "The Flatso"

Specifications

INPUT: 28 VDC nominal

Range: 15 to 50 VDC continuous
18 to 50 VDC full power

Survives 80 V Surge

Power derates to 90% at 15 VDC, full power at 18 VDC

ISOLATION:

Input to case: 500 VDC

Input to output: 500 VDC

Output to case: 500 VDC

ENVIRONMENT:

Storage temperature: -55°C to +150°C

Shock: 50 G's

Acceleration: 500 G's

Vibration: 30 G's

Grades: Industrial:

Full Power Output at $T_{case} = +85^{\circ}C$

Lineary derates to zero at $T_{case} = +115^{\circ}C$

Grades M:

Full Power Output at $T_{case} = +85^{\circ}C$

Lineary derates to zero at $T_{case} = +115^{\circ}C$

Grades E:

Full Power Output at $T_{case} = +125^{\circ}C$

Lineary derates to zero at $T_{case} = +135^{\circ}C$

WEIGHT: 20 grams typical

SINGLE OUTPUT DEVICES		3716-S3.3 (5W)			3716-S05 (6W)			3716-S12 (6W)			3716-S15 (6W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	—	+3.2	+3.3	+3.4	+4.9	+5.0	+5.1	+11.8	+12.0	+12.2	+14.6	+15.0	+15.4
Output current	$V_{in\ min} - V_{in\ max}$	—	—	1.5A	—	—	1.2A	—	—	500mA	—	—	400mA
Efficiency	$P_{out} = \text{max rated load}$	68 %	74%	—	70%	77%	—	76%	81%	—	78%	83%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	33mV	66mV	—	50mV	100mV	—	120mV	240mV	—	150mV	300mV
Load regulation	$P_{out} = 10\% \text{ to F.L.}$	—	70mV	132mV	—	60mV	150mV	—	240mV	360mV	—	180mV	450mV
Output ripple	F.L. BW 2 MHz mV_{pp}	—	50	100	—	50	100	—	120	240	—	150	300

SINGLE OUTPUT DEVICES		3716-S28 (6W)			3716-S48 (6W)			3716-S100 (6W)			3716-S200 (6W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	—	+27.4	+28.0	+28.6	47.0	48.0	49.0	98.0	100.0	102.0	196.0	200.0	204.0
Output current	$V_{in\ min} - V_{in\ max}$	—	—	214mA	—	—	125mA	—	—	60mA	—	—	30mA
Efficiency	$P_{out} = \text{max rated load}$	78%	83%	—	77%	81%	—	74%	80%	—	—	74%	80%
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	280mV	560mV	—	150mV	300mV	—	300mV	600mV	—	600mV	1.20V
Load regulation	$P_{out} = 10\% \text{ to F.L.}$	—	132mV	340mV	—	450mV	700mV	—	900mV	1.40V	—	1.8V	2.8V
Output ripple	F.L. BW 2 MHz mV_{pp}	—	50	600	—	400	1000	—	800mV	2.0V	—	1.6V	4.0V

DUAL OUTPUT DEVICES		3716-D05 (6W)			3716-D12 (6W)			3716-D15 (6W)			Your Custom Requirement Here
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Output voltage	—	+4.9	+5.0	+5.1	+11.8	+12.0	+12.2	+14.7	+15.0	+15.3	
Output current*	$V_{in\ min} - V_{in\ max}$	—	—	±600mA	—	—	±250mA	—	—	±200mA	
Efficiency	$P_{out} = \text{max rated load}$	70%	77%	—	76%	81%	—	78%	83%	—	
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	±50mV	±100mV	—	±120mV	±240mV	—	±150mV	±300mV	
Load regulation†	$P_{out} = 10\% \text{ to F.L.}$	—	±60mV	±150mV	—	±240mV	±360mV	—	±180mV	±450mV	
Output ripple	F.L. BW 2 MHz mV_{pp}	—	50	100	—	120	240	—	150	300	

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

Pin Outs

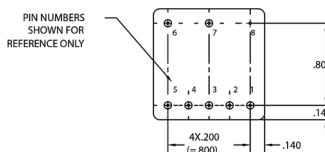
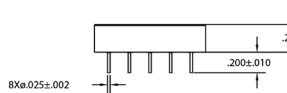
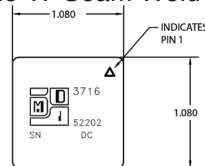
3716-SXX

Pin 1	+V Output
Pin 2	Output Return
Pin 3	Output Return
Pin 4	N/C
Pin 5	Inhibit Not
Pin 6	+28 VDC Input
Pin 7	Input Return
Pin 8	Case Ground

3716-DXX

Pin 1	+V Output
Pin 2	Output Return
Pin 3	-V Output
Pin 4	N/C
Pin 5	Inhibit Not
Pin 6	+28VDC Input
Pin 7	Input Return
Pin 8	Case Ground

Case Style 17 Seam Weld



Note: Baseplate is recommended heat removal surface.

Part Numbering System

3	7	1	6	G*	—	C†	V	V	.	V	P‡
Series and Power				Grade	—	Config	Voltage			Package	

Series and Power = MDI Model Number

G* = Grade Level

BLANK = Industrial

M = Military

E = Extended Temperature

C† = Configuration

S = Single Output

D = Dual Output

T = Triple Output

V = Voltage

See Above Tables

P‡ = Package

BLANK = Case Style 19

D = Case Style 18



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