

# 3.25-5 Watt Hybrid

## Features

- Completely self contained Thick Film Hybrid DC-DC Converter
- Built-in EMI input filter meets MIL-STD-461C requirements CE01, CE03, CS01, CS02 and CS06
- "Inhibit-not" function
- Fully isolated, input to output
- Single, double and triple outputs
- Short circuit protection
- 200 kHz operation for low ripple and fast response
- No external filter caps required
- Hermetically sealed package

## Specifications

**INPUT:** 16 to 24 VDC nominal

Range: 8 to 40 VDC continuous

Unit will start up at  $V_{in} > 9.5$  VDC

**OUTPUT:** for  $V_{in} < 16$  VDC, the output power linearly derates to 1/2 full output power at  $V_{in} = 8$  VDC

### ISOLATION:

Input to case: 500 VDC

Input to output: 500 VDC

Output to case: 100 VDC

### ENVIRONMENT:

Storage temperature: -55°C to +150°C

Shock: 50 G's

Acceleration: 500 G's

Vibration: 30 G's

Grade M:

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

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

Grade E:

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

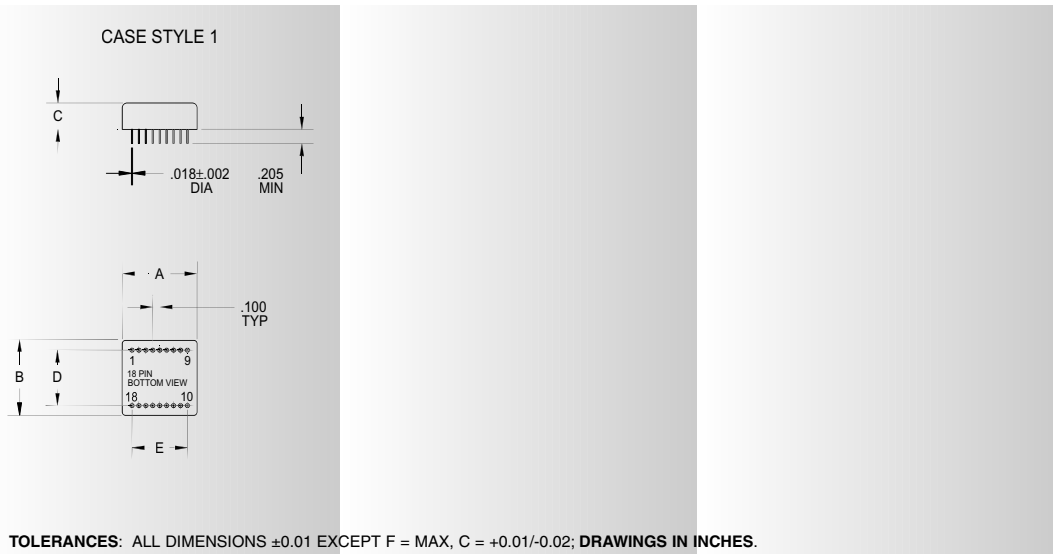
Linearly derates to zero at  $T_{case} = +135^{\circ}\text{C}$

**WEIGHT:** 20 grams typical

SINGLE OUTPUT DEVICES		3061-S03.3 (3.3W)			3061-S05 (5W)			3061-S05.2 (5W)			3061-S12 (5W)		
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	+5.1	+5.2	+5.3	+11.9	+12.0	+12.1
Output current	$V_{in} = 16$ to 40 VDC	—	—	1A	—	—	1A	—	—	961mA	—	—	416mA
Efficiency	$P_{out} = \text{max rated load}$	62%	65%	—	67%	70%	—	67%	70%	—	74%	78%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in} = 16$ to 40 VDC	—	10mV	30mV	—	10mV	50mV	—	10mV	50mV	—	20mV	100mV
Load regulation	$P_{out} = 10\%$ to F.L.	—	10mV	30mV	—	10mV	50mV	—	10mV	50mV	—	20mV	100mV
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	30	65	—	40	85	—	40	85	—	60	150

SINGLE OUTPUT DEVICES		3061-S15 (5W)			3061-S28 (5W)								
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX						
Output voltage	—	+14.9	+15.0	+15.1	+27.8	+28.0	+28.2						
Output current	$V_{in} = 16$ to 40 VDC	—	—	333mA	—	—	178mA						
Efficiency	$P_{out} = \text{max rated load}$	75%	79%	—	74%	78%	—						
Line regulation	$P_{out} = \text{max rated load}$ $V_{in} = 16$ to 40 VDC	—	25mV	125mV	—	50mV	250mV						
Load regulation	$P_{out} = 10\%$ to F.L.	—	25mV	125mV	—	50mV	250mV						
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	75	180	—	150	350						

Model No.	Case Style	Pin Count	Mounting
3061	1	18	Solder Sealed Flangeless PCB Mount



## Case Dimensions

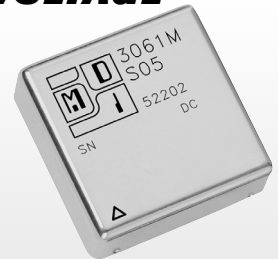
Units: inches | millimeters

Case Style	A	B	C	D	E	F	G
1	1.080   27.432	1.080   27.432	0.380   9.652	0.800   20.320	0.800   20.320	—   —	—   —

# DC-DC CONVERTERS

# FULL FEATURE SERIES 3061

**LOW INPUT VOLTAGE**



**8-40 VDC**

0006

DUAL OUTPUT DEVICES		3061-D05 (5W)			3061-D12 (5W)			3061-D15 (5W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	$+I_{out} = -I_{out}$	+4.9	+5.0	+5.1	+11.9	+12.0	+12.1	+14.9	+15.0	+15.1
		-4.9	-5.0	-5.1	-11.9	-12.0	-12.1	-14.9	-15.0	-15.1
Output current*	$V_{in} = 16$ to 40 VDC	±35mA	—	±500mA	±15mA	—	±208mA	±12mA	—	±166mA
Efficiency	$P_{out} = \text{max rated load}$	69%	72%	—	74%	78%	—	75%	79%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in} = 16$ to 40 VDC	—	±10mV	±50mV	—	±20mV	±100mV	—	±25mV	±125mV
Load regulation†	$P_{out} = 10\%$ to F.L.	—	±10mV	±50mV	—	±20mV	±100mV	—	±25mV	±125mV
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	40	85	—	60	150	—	75	180

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

TRIPLE OUTPUT DEVICES		3061-T05 (3.25W)			3061-T12 (3.7W)			3061-T15 (3.7W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	$+I_{out} = -I_{out}$	+4.9	+5.0	+5.1	+4.9	+5.0	+5.1	+4.9	+5.0	+5.1
		+4.9	+5.0	+5.1	+11.5	+12.0	+12.5	+14.5	+15.0	+15.5
		-4.9	-5.0	-5.1	-11.5	-12.0	-12.5	-14.5	-15.0	-15.5
Output current	$V_{in} = 16$ to 40 VDC	60mA	—	500mA	100mA	—	500mA	100mA	—	500mA
		±20mA	—	±75mA	±5mA	—	±50mA	±5mA	—	±40mA
Efficiency	$P_{out} = \text{max rated load}$	62%	65%	—	67%	70%	—	67%	70%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in} = 16$ to 40 VDC	—	10mV	50mV	—	10mV	50mV	—	10mV	50mV
		—	25mV	50mV	—	25mV	50mV	—	25mV	50mV
Load regulation	$P_{out} = 10\%$ to F.L.	—	10mV	50mV	—	10mV	50mV	—	10mV	50mV
		—	25mV	50mV	—	25mV	50mV	—	25mV	50mV
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	40	85	—	40	85	—	40	85
		—	—	50	—	—	50	—	—	50

3061-SXX output <24 VDC		3061-SXX output ≥24 VDC		3061-DXX		3061-TXX	
Pin 1	+ input	Pin 10	N/C	Pin 1	+ input	Pin 10	N/C
Pin 2	+ input	Pin 11	N/C	Pin 2	+ input	Pin 11	N/C
Pin 3	N/C	Pin 12	N/C	Pin 3	N/C	Pin 12	N/C
Pin 4	case	Pin 13	N/C	Pin 4	case	Pin 13	N/C
Pin 5	N/C	Pin 14	N/C	Pin 5	- dual output	Pin 14	N/C
Pin 6	main out ret	Pin 15	inhibit not	Pin 6	output com	Pin 15	inhibit not
Pin 7	main out ret	Pin 16	N/C	Pin 7	output com	Pin 16	N/C
Pin 8	N/C	Pin 17	input ret	Pin 8	+ dual output	Pin 17	input ret
Pin 9	main output	Pin 18	input ret	Pin 9	N/C	Pin 18	input ret

Please specify **GRADE LEVEL** for your application. Industrial grade units will be shipped if no option is specified.

- M** +85°C military
- E** +125°C military