

# 3.25-5 Watt Hybrid

## Features

- Completely self contained Thick Film Hybrid DC-DC Converter
- For MIL-STD-704 applications
- Built-in EMI input filter meets MIL-STD-461C requirements CE01, CE03, CS01, CS02 and CS06
- "Inhibit-not" function
- Short circuit protection
- Fully isolated, input to output
- Single, double or triple outputs
- 200 kHz operation for low ripple and fast response time
- No external filter caps required
- Full hermetic package

## Specifications

**INPUT:** 28 VDC nominal  
 Range: 16 to 50 VDC continuous  
 18 to 50 VDC full power  
 Survives 80 V transients/MIL-STD-704A

### 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:

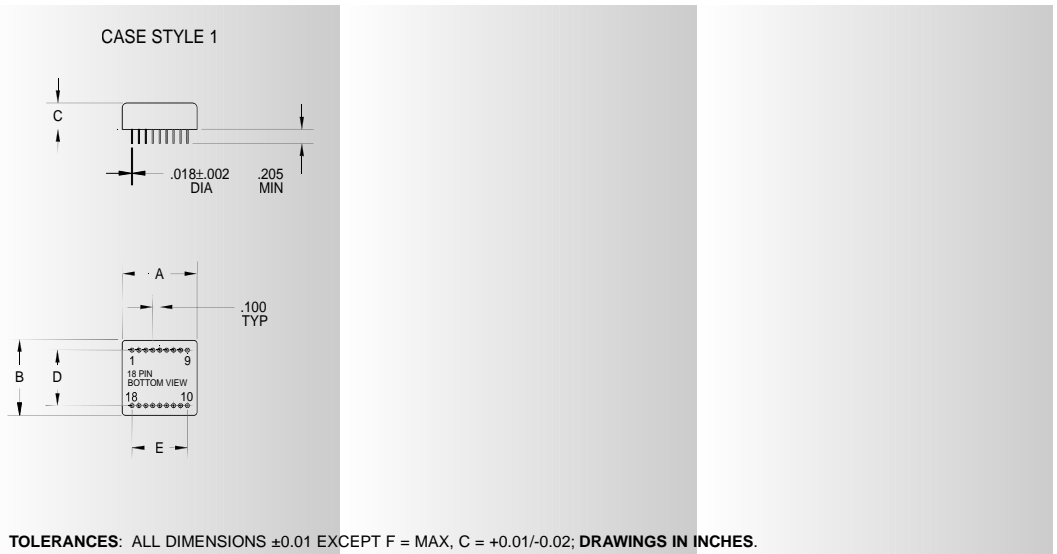
Full Power Output at  $T_{case} = +85^{\circ}C$   
 Linearly derates to zero at  $T_{case} = +115^{\circ}C$   
 Grade E:

Full Power Output at  $T_{case} = +125^{\circ}C$   
 Linearly derates to zero at  $T_{case} = +135^{\circ}C$   
**WEIGHT:** 20 grams typical

SINGLE OUTPUT DEVICES		3080-S02 (2W)			3080-S02.5 (2.5W)			3080-S03.3 (3.3W)			3080-S05 (5W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	—	+1.9	+2.0	+2.1	+2.4	+2.5	+2.6	+3.2	+3.3	+3.4	+4.9	+5.0	+5.1
Output current	$V_{in\ min} - V_{in\ max}$	—	—	1A	—	—	1A	—	—	1A	—	—	1A
Efficiency	$P_{out} = \text{max rated load}$	54%	57%	—	59%	62%	—	64%	67%	—	69%	72%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	10mV	30mV	—	10mV	30mV	—	10mV	30mV	—	10mV	50mV
Load regulation	$P_{out} = 10\%$ to F.L.	—	10mV	30mV	—	10mV	30mV	—	10mV	30mV	—	10mV	50mV
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	25	50	—	30	60	—	30	65	—	40	85

SINGLE OUTPUT DEVICES		3080-S05.2 (5W)			3080-S12 (5W)			3080-S15 (5W)			3080-S28 (5W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	—	+5.1	+5.2	+5.3	+11.9	+12.0	+12.1	+14.9	+15.0	+15.1	+27.8	+28.0	+28.2
Output current	$V_{in\ min} - V_{in\ max}$	—	—	961mA	—	—	416mA	—	—	333mA	—	—	178mA
Efficiency	$P_{out} = \text{max rated load}$	69%	72%	—	76%	80%	—	77%	81%	—	76%	80%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	10mV	50mV	—	20mV	100mV	—	25mV	125mV	—	50mV	250mV
Load regulation	$P_{out} = 10\%$ to F.L.	—	10mV	50mV	—	20mV	100mV	—	25mV	125mV	—	50mV	250mV
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	40	85	—	60	150	—	75	180	—	150	350

Model No.	Case Style	Pin Count	Mounting
3080	1	18	Solder Sealed Flangeless PCB Mount



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

# SERIES 3080



**28 VDC**

0006

DUAL OUTPUT DEVICES		3080-D05 (5W)			3080-D12 (5W)			3080-D15 (5W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	$+I_{out} = -I_{out}$	+4.9 -4.9	+5.0 -5.0	+5.1 -5.1	+11.9 -11.9	+12.0 -12.0	+12.1 -12.1	+14.9 -14.9	+15.0 -15.0	+15.1 -15.1
Output current*	$V_{in\ min} - V_{in\ max}$	±35mA	—	±500mA	±15mA	—	±208mA	±12mA	—	±166mA
Efficiency	$P_{out} = \text{max rated load}$	71%	74%	—	76%	80%	—	77%	81%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	±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		3080-T05 (3.25W)			3080-T12 (3.7W)			3080-T15 (3.7W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	$+I_{out} = -I_{out}$	+4.9 -4.9	+5.0 -5.0	+5.1 -5.1	+4.9 -11.5	+5.0 -12.0	+5.1 -12.5	+4.9 -14.5	+5.0 -15.0	+5.1 -15.5
Output current	$V_{in\ min} - V_{in\ max}$	50mA ±10mA	—	500mA ±75mA	50mA ±5mA	—	500mA ±50mA	50mA ±5mA	—	500mA ±40mA
Efficiency	$P_{out} = \text{max rated load}$	64%	67%	—	69%	72%	—	69%	72%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	10mV 25mV	50mV 50mV	—	10mV 25mV	50mV 50mV	—	10mV 25mV	50mV 50mV
Load regulation	$P_{out} = 10\%$ to F.L.	—	10mV 25mV	50mV 50mV	—	10mV 25mV	50mV 50mV	—	10mV 25mV	50mV 50mV
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	40	85	—	40	85	—	40	85

3080-SXX output <24 VDC		3080-SXX output ≥24 VDC		3080-DXX		3080-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