

# Series 3729

## 26 – 50 Watt Hybrid

### Features:

- Completely self contained DC - DC Converter
- For MIL-STD-704/1275 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 and dual outputs
- 400 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

### DERATING:

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

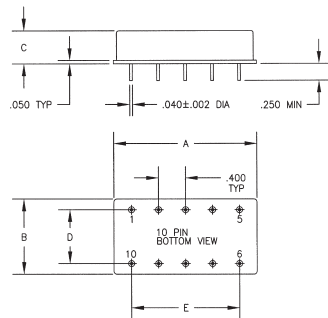
**WEIGHT:** 65 grams typical

SINGLE OUTPUT DEVICES		3729-S03.3 (26W)			3729-S05 (40W)			3729-S05.2 (40W)			3729-S12 (50W)		
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	$V_{in min} - V_{in max}$	—	—	8A	—	—	8A	—	—	7.7A	—	—	4.6A
Efficiency	$P_{out} = \text{max rated load}$	70%	73%	—	72%	77%	—	72%	77%	—	79%	83%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in min} - V_{in max}$	—	10mV	30mV	—	10mV	50mV	—	10mV	50mV	—	20mV	100mV
Load regulation	$P_{out} = 10\% \text{ to F.L.}$	—	10mV	30mV	—	10mV	50mV	—	10mV	50mV	—	20mV	100mV
Output ripple	F.L. BW 2 MHz $mV_{pp}$	—	30	65	—	40	85	—	40	85	—	60	150

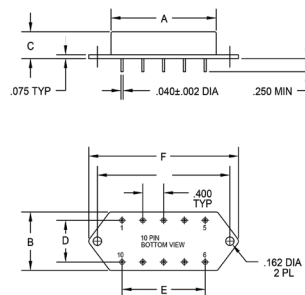
SINGLE OUTPUT DEVICES		3729-S15 (50W)			3729-S28 (50W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	—	+14.9	+15.0	+15.1	+27.8	+28.0	+28.2
Output current	$V_{in min} - V_{in max}$	—	—	3.3A	—	—	1.8A
Efficiency	$P_{out} = \text{max rated load}$	80%	84%	—	80%	84%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in min} - V_{in max}$	—	25mV	125mV	—	50mV	250mV
Load regulation	$P_{out} = 10\% \text{ to F.L.}$	—	25mV	125mV	—	50mV	250mV
Output ripple	F.L. BW 2 MHz $mV_{pp}$	—	75	180	—	150	350

Model No.	Case Style	Pin Count	Mounting
3729	2	10	Solder Sealed Flangeless PCB Mount
3729	F	10	Solder Sealed PCB Mount with Flange
3729	PA	10	Solder Sealed Flangeless PCB Stud Mount
3729	MF	13	Seam Weld PCB Mount with Flange

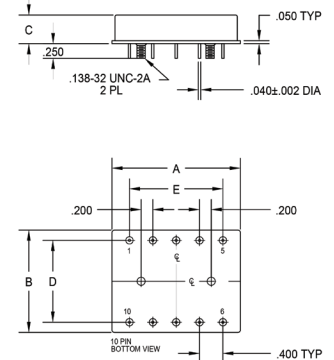
CASE STYLE 2  
Solder Seal



CASE STYLE 3  
Solder Seal



CASE STYLE 10  
Solder Seal



### Case Dimensions

Units: inches | millimeters

TOLERANCES: ALL DIMENSIONS ±0.01 EXCEPT F= MAX. C = +0.01/-0.02; DRAWINGS IN INCHES.

Case Style	A	B	C	D	E	F	G
2	1.950   49.530	1.350   34.290	0.495   12.573	1.000   25.400	1.600   40.640	—   —	—   —
3	1.950   49.530	1.350   34.290	0.495   12.573	1.000   25.400	1.600   40.640	2.710   68.834	2.360   59.944
10	1.950   49.530	1.350   34.290	0.495   12.573	1.000   25.400	1.600   40.640	—   —	—   —
13	1.950   49.530	1.350   34.290	0.495   12.573	1.000   25.400	1.600   40.640	2.710   68.834	2.360   59.944



# Series 3729

## DC – DC Converters

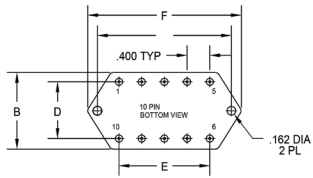
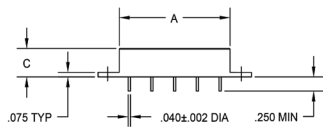
DUAL OUTPUT DEVICES		3729-D05 (40W)			3729-D12 (50W)			3729-D15 (50W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	—	+4.9	+5.0	+5.1	+11.9	+12.0	+12.1	+14.9	+15.0	+15.1
		-4.9	-5.0	-5.1	-11.9	-12.0	-12.1	-14.9	-15.0	-15.1
Output current*	$V_{in\ min} - V_{in\ max}$	±150mA	—	±4A	±95mA	—	±2.1A	±76mA	—	±1.7A
Efficiency	$P_{out} = \text{max rated load}$	73%	77%	—	79%	83%	—	80%	84%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	±10mV	±50mV	—	±20mV	±100mV	—	±25mV	±125mV
Load regulation†	$P_{out} = 10\% \text{ to F.L.}$	—	±10mV	±50mV	—	±20mV	±100mV	—	±25mV	±125mV
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	40	85	—	60	150	—	75	180

28 Volts DC Input



Notes: \*Up to 70% full power available from either output if rated output power is not exceeded; †balanced load conditions.


CASE STYLE 13  
Seam Weld



3729-SXX output < 24 VDC			3729-SXX output ≥ 24 VDC			3729-DXX					
Pin 1	+ input	Pin 6	+remote sense	Pin 1	+ input	Pin 6	N/C	Pin 1	+ input	Pin 6	N/C
Pin 2	input return	Pin 7	case	Pin 2	input return	Pin 7	case	Pin 2	input return	Pin 7	case
Pin 3	-remote sense	Pin 8	inhibit not	Pin 3	main output	Pin 8	inhibit not	Pin 3	+dual output	Pin 8	inhibit not
Pin 4	main out rtn	Pin 9	N/C	Pin 4	N/C	Pin 9	N/C	Pin 4	dual out rtn	Pin 9	N/C
Pin 5	main output	Pin 10	N/C	Pin 5	main out rtn	Pin 10	N/C	Pin 5	-dual output	Pin 10	N/C

