

# Series 3724

## 20 – 30 Watt Hybrid

### Features:

- Completely self contained DC - DC Converter
- For MIL-STD-704/1275 applications
- "Inhibit-not" function
- Short circuit protection
- Fully isolated, input to output
- Single and dual outputs
- 800 kHz operation for low ripple and fast response time
- No external filter caps required
- Full hermetic package

### Specifications

**INPUT:** 28 VDC nominal  
 Range: 15 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  $T_{case} = +135^{\circ}C$

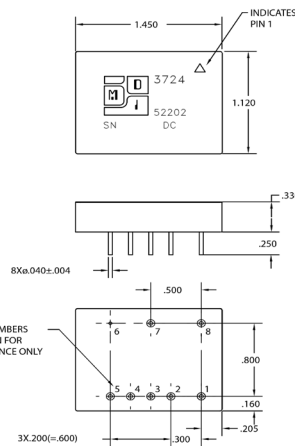
**WEIGHT:** 65 grams typical

SINGLE OUTPUT DEVICES		3724-S03.3 (20W)			3724-S05 (30W)			3724-S12 (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	+11.85	+12.0	+12.15
Output current	$V_{in min} - V_{in max}$	0.06	—	6A	0.06	—	6A	0.025	—	2.5A
Efficiency	$P_{out} = \text{max rated load}$	78%	80%	—	80%	82%	—	84%	86%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in min} - V_{in max}$	—	10mV	20mV	—	10mV	20mV	—	10mV	20mV
Load regulation	$P_{out} = 10\% \text{ to F.L.}$	—	20mV	50mV	—	20mV	50mV	—	20mV	50mV
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	50	100	—	50	100	—	100	200

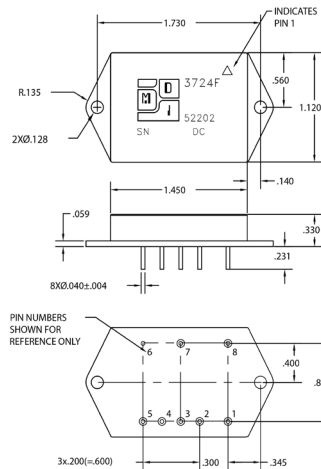
SINGLE OUTPUT DEVICES		3724-S15 (30W)			3724-S28 (30W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	—	+14.85	+15.0	+15.15	+27.3	+28.0	+28.3
Output current	$V_{in min} - V_{in max}$	0.02	—	2A	0.0107	—	1.07A
Efficiency	$P_{out} = \text{max rated load}$	85%	87%	—	85%	87%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in min} - V_{in max}$	—	10mV	20mV	—	20mV	40mV
Load regulation	$P_{out} = 10\% \text{ to F.L.}$	—	20mV	50mV	—	50mV	100mV
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	100	200	—	150	300

Model No.	Case Style	Pin Count	Mounting
3724	18	8	Seam Weld Flangeless PCB Mount
3724 F	19	8	Seam Weld PCB Mount with Flange

CASE STYLE 18  
Seam Weld



CASE STYLE 19  
Seam Weld with Flange



### 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
3724	21   1.450   36.830	1.120   28.448	0.330   8.382	0.800   20.320	0.900   22.860	—   —	—   —
3724F	22   1.450   36.830	1.120   28.448	0.330   8.382	0.800   20.320	0.900   22.860	2.005   50.927	1.730   43.942



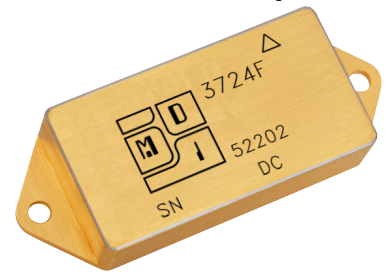
# Series 3724

## DC – DC Converters

DUAL OUTPUT DEVICES		3724-D05 (30W)			3724-D12 (30W)			3724-D15 (30W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	—	+4.9	+5.0	+5.1	+11.85	+12.0	+12.15	+14.85	+15.0	+15.15
		-4.9	-5.0	-5.1	-11.85	-12.0	-12.15	-14.85	-15.0	-15.15
Output current*	$V_{in\ min} - V_{in\ max}$	±0.03mA	—	±3A	±0.0125mA	—	±1.25A	±0.01mA	—	±1A
Efficiency	$P_{out} = \text{max rated load}$	82%	84%	—	85%	87%	—	85%	87%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	±10mV	±20mV	—	±10mV	±20mV	—	±10mV	±20mV
Load regulation†	$P_{out} = 10\% \text{ to F.L.}$	—	±20mV	±50mV	—	±20mV	±50mV	—	±20mV	±50mV
Output ripple	F.L. BW 2 MHz mV <sub>pp</sub>	—	50	100	—	100	200	—	100	200

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

28 Volts DC Input



PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX

### 3724-SXX

Pin 1 inhibit  
Pin 2 N/C  
Pin 3 output comm  
Pin 4 + output  
Pin 5 sync  
Pin 6 case  
Pin 7 input comm  
Pin 8 + input

### 3724-DXX

Pin 1 + input  
Pin 2 input return  
Pin 3 +dual output  
Pin 4 dual out ret  
Pin 5 -dual output  
Pin 6 N/C  
Pin 7 case  
Pin 8 inhibit not

