

Series 3735

26 – 40 Watt Hybrid

Features:

- Specifically designed for demanding military and aerospace applications where best value is critical.
- Rugged hermetic package
- High power density
- High Efficiency
- Survives MIL-STD-704A 80V surge
- Soft Start
- Input to outputs magnetically isolated
- Single outputs have remote sense pins
- Sync Input
- Input Ripple Filter
- Output common mode filters
- No external components required
- Single and dual outputs

Specifications

INPUT: 28 VDC nominal
Range: 15 to 50 VDC range
Survives 80 V surges

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 $T_{case} = -55^{\circ}C$ to $+85^{\circ}C$
Linearly derates to zero at $T_{case} = +115^{\circ}C$

Grade E:

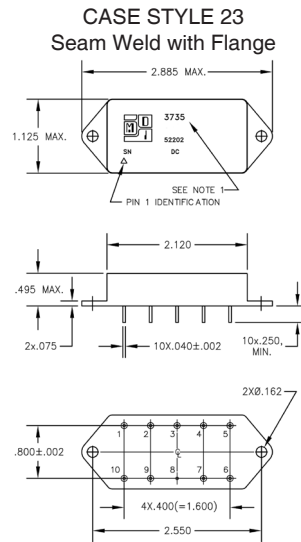
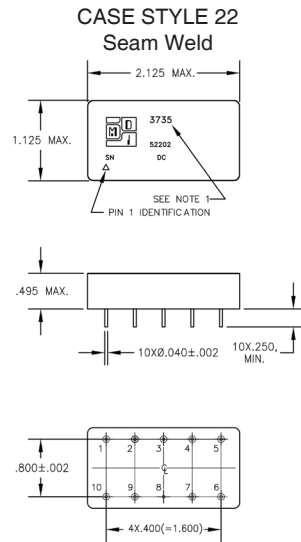
Full Power Output at $T_{case} = -55^{\circ}C$ to $+125^{\circ}C$
Linearly derates to zero at $T_{case} = +135^{\circ}C$

WEIGHT: 55 grams typical

SINGLE OUTPUT DEVICES		3735-S03.3 (26W)			3735-S05 (40W)			3735-S12 (40W)		
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	$V_{in min} - V_{in max}$.8A	—	8A	.8A	—	8A	.333A	—	3.33A
Efficiency	$P_{out} = \text{max rated load}$	73%	76%	—	75%	77%	—	81%	83%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in min} - V_{in max}$	—	10mV	20mV	—	10mV	20mV	—	10mV	20mV
Load regulation	$P_{out} = 10\%$ to F.L.	—	20mV	50mV	—	20mV	50mV	—	20mV	50mV
Output ripple	F.L. BW 2 MHz mV _{pp}	—	50	100	—	50	100	—	100	200

SINGLE OUTPUT DEVICES		3735-S15 (40W)			3735-S28 (40W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX
Output voltage	—	+14.85	+15.0	+15.15	+27.3	+28.0	+28.3
Output current	$V_{in min} - V_{in max}$.267A	—	2.67A	.143A	—	1.43A
Efficiency	$P_{out} = \text{max rated load}$	83%	85%	—	82%	84%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in min} - V_{in max}$	—	10mV	20mV	—	20mV	40mV
Load regulation	$P_{out} = 10\%$ to F.L.	—	20mV	50mV	—	50mV	100mV
Output ripple	F.L. BW 2 MHz mV _{pp}	—	100	200	—	150	300

Model No.	Case Style	Pin Count	Mounting
3735	22	10	Seam Weld Flangeless PCB Mount
3735	23	10	Seam Weld PCB Mount with Flange



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

Note: Baseplate is recommended heat removal surface.

Part Numbering System

3	7	3	5	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

V = Voltage

See Above Tables

P‡ = Package

-22 = Case Style 22

-23 = Case Style 23



Series 3735

DC – DC Converters

DUAL OUTPUT DEVICES		3735-D05 (40W)			3735-D12 (40W)			3735-D15 (40W)		
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*	$V_{in\ min} - V_{in\ max}$	±4A	—	±4A	±1.67A	—	±1.67A	±0.133mA	—	±1.33A
Efficiency	$P_{out} = \text{max rated load}$	78%	80%	—	81%	83%	—	82%	84%	—
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 _{pp}	—	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



3735-SXX	3735-DXX
Pin 1 + input	Pin 1 + input
Pin 2 inhibit-not	Pin 2 inhibit-not
Pin 3 output adjust	Pin 3 + output
Pin 4 output return	Pin 4 output return
Pin 5 + output	Pin 5 - output
Pin 6 N/C	Pin 6 N/C
Pin 7 N/C	Pin 7 N/C
Pin 8 case	Pin 8 case
Pin 9 N/C	Pin 9 N/C
Pin 10 + input return	Pin 10 + input return

