

3.75-6.5 Watt Hybrid

Features

- Specifically designed for redundant or individual military or aerospace applications
- Completely self contained Thick Film Hybrid DC-DC Converter
- No external filter caps required
- Fully isolated design
- "Inhibit" function
- Power on soft start
- 200 kHz operation for low ripple and fast response time
- Built-in EMI input filter meets MIL-STD-461C requirements CE01, CE03, CS01, CS02 and CS06
- Short circuit and overvoltage protection
- Capability of external sync for switching frequencies
- Built-in test capability

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 $T_{case} = +115^{\circ}C$

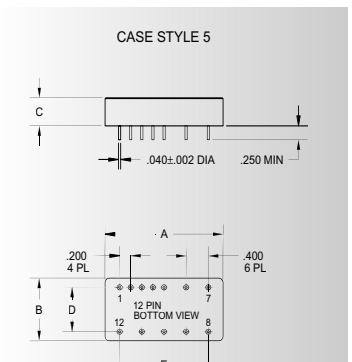
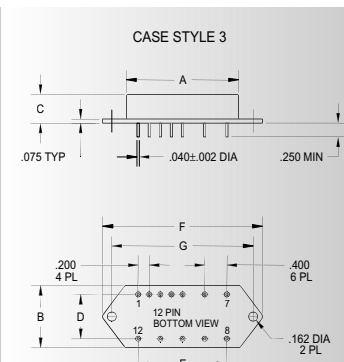
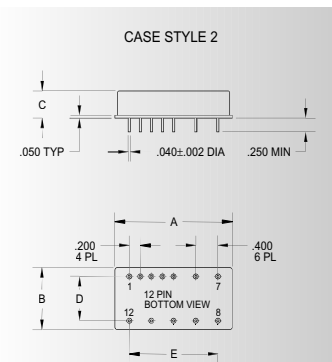
Grade E:
 Full Power Output at $T_{case} = +125^{\circ}C$
 Linearly derates to zero at $T_{case} = +135^{\circ}C$

WEIGHT: 50 grams typical

SINGLE OUTPUT DEVICES		2690-S03.3 (6.5W)			2690-S05 (6.5W)			2690-S05.2 (6.5W)			2690-S12 (6.5W)		
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	$V_{in\ min} - V_{in\ max}$	—	—	1.97A	—	—	1.3A	—	—	1.25A	—	—	541mA
Efficiency	$P_{out} = \text{max rated load}$	66%	69%	—	71%	74%	—	71%	74%	—	78%	82%	—
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	10mV	30mV	—	10mV	50mV	—	10mV	50mV	—	20mV	100mV
Load regulation	$P_{out} = 10\%$ 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		2690-S15 (6.5W)			2690-S28 (6.5W)								
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX						
Output voltage	—	+14.9	+15.0	+15.1	+27.8	+28.0	+28.2						
Output current	$V_{in\ min} - V_{in\ max}$	—	—	433mA	—	—	232mA						
Efficiency	$P_{out} = \text{max rated load}$	79%	83%	—	78%	82%	—						
Line regulation	$P_{out} = \text{max rated load}$ $V_{in\ min} - V_{in\ max}$	—	25mV	125mV	—	50mV	250mV						
Load regulation	$P_{out} = 10\%$ 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
2690	2	12	Solder Sealed Flangeless PCB Mount
2690	F	3	Solder Sealed PCB Mount with Flange
2690	G	5	Seam Weld Flangeless PCB Mount
2690	GF	6	Seam Weld PCB Mount with Flange
2690	UF	8	Seam Weld Chassis Mount with Flange



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

Case Dimensions

Units: inches | millimeters

Case Style	A		B		C		D		E		F		G	
2	2.130	54.102	1.120	28.448	0.375	9.525	0.800	20.320	1.600	40.640	—	—	—	—
3 F	2.130	54.102	1.120	28.448	0.375	9.525	0.800	20.320	1.600	40.640	2.890	73.406	2.550	64.770
5 G	2.130	54.102	1.120	28.448	0.375	9.525	0.800	20.320	1.600	40.640	—	—	—	—
6 GF	2.130	54.102	1.120	28.448	0.375	9.525	0.800	20.320	1.600	40.640	2.890	73.406	2.550	64.770
8 UF	2.160	54.864	1.510	38.354	0.495	12.573	—	—	1.600	40.640	2.890	73.406	2.550	64.770

