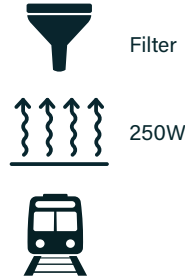


MCF-028015



DIMENSIONS:

2.28 x 1.45 x 0.5"
(57.9 x 36.8 x 12.7mm)

MIL-STD 1275E

INRUSH LIMIT

-40 to 105°C
OPERATION

MIL-STD 461G

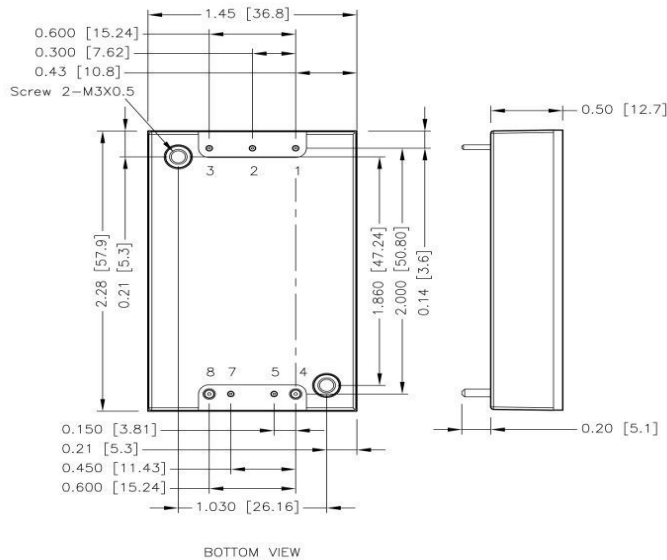
REVERSE POLARITY
PROTECTION

REMOTE ON / OFF

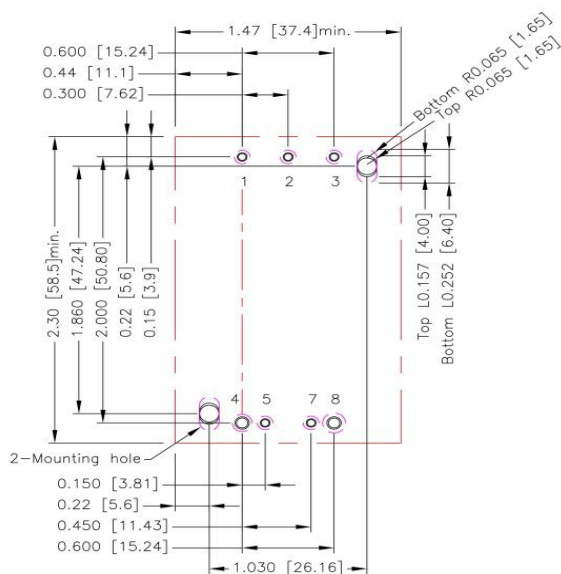
Key specifications

Input range	Transient and spike	Efficiency	Inrush limit
9-36 VDC	1sec 50VDC max 50ms 100VDC max 70us, 2J +/-250VDC max	98%	15A

Mechanical



Layout



Pin/Function

Pin	Function
1.	-Vin
2.	Ctrl
3.	+Vin
4.	-Vout
5.	-Emi
7.	+Emi
8.	+Vout

Notes

- All dimensions shown in inch [mm]
- Tolerance 2dp +/-0.02" [1dp +/-0.5]
3dp +/-0.01 [2dp +/-0.25]
- Pin dimension tolerance +/-0.004[0.1]
- Screw torque MAX 3.5kgf-cm [0.34N-m]
- Pin diameter 0.04" except 4 & 8 at 0.06"

Weight

64g

Pad size

- Through hole 1,2,3,5,7: 0.051" (1.3mm)
- Through hole 4,8: 0.075(1.9mm)
- Through hole of mounting: 0.126(3.2mm)
- Top view pad 1,2,3,5,7: 0.064" (1.63mm)
- Top view pad 4,8: 0.094(2.38)
- Top view pad of mounting: Groove R0.065" (1.65mm) L0.157"(4mm)
- Bottom view pad 1,2,3,5,7: 0.102" (2.6mm)
- Bottom view pad 8: 0.15" (3.8mm)
- Bottom view pad 4:0.13" (3.3mm)
- Bottom view pad of mounting: Groove R0.065"(1.65mm)L0.252"(6.4mm)

Input

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Input voltage	9	28	36	VDC	
Inrush current		5		A	With 1000uF connected on output
Start up voltage			9	VDC	
Shut down voltage	5.5	6	6.5	VDC	
Transient voltage			50 100	VDC	1 sec max 50ms max
Spikes	-250		250	VDC	70us, 2J

Output

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Output voltage		Vin-1	Vin	VDC	
Clamping voltage			40	VDC	Input transient voltage mode
Efficiency			98	%	
Output current			15	A	
Output power			250	W	

Protections

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Over temperature		115		°C	
Reverse polarity	-36		0	VDC	Internal series MOSFET held in off state avoiding reverse current
Over voltage					Latch off reset
Over temperature					Latch off reset
Overload protection		35		A	Hiccup mode
Short circuit porteciton					Continuous automatic recovery

Safety

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Isolation: Output to case	2250			VDC	

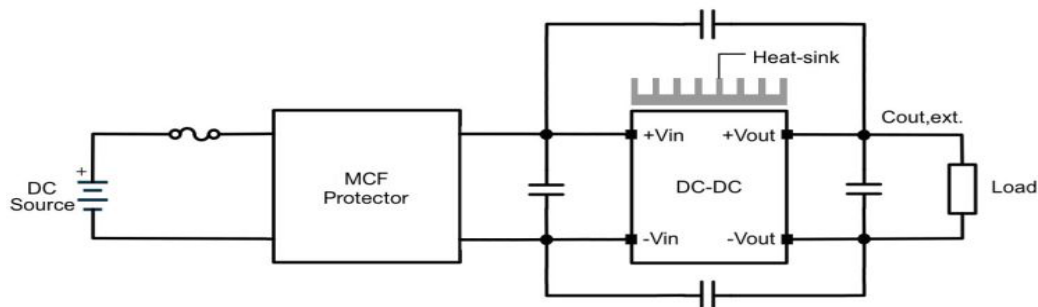
EMC: Immunity

	Description	Level	Notes/Conditions
CE101-4 CE102-1 RE101-2 RE102-3	Curve #2 Basic curve Navy Fixed wing internal >25m nose to tail	MIL-STD-461G	With external components

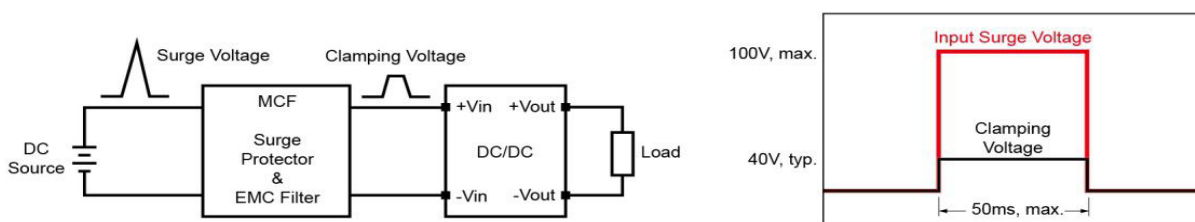
EMC: Emissions

	Description	Level	Notes/Conditions
CS101-4 CS114-1 CS115-1 CS116-2	Curve #2 Curve #5 Basic waveform I _{max} 10A	MIL-STD-461G	With external components

Typical Application



The surge protector clamps over-voltage to a safe value to protect the power module. The filter ensures that the downstream module works in accordance with MIL-STD-1275E during input surge conditions below:



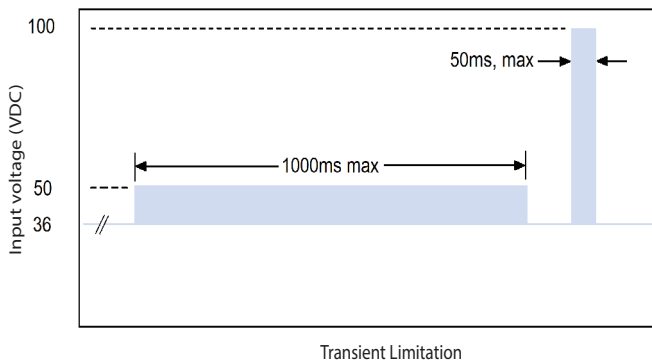
The surge protector can be used for 28V battery system in a MIL-STD-1275E application

Standard	Un(VDC)	Permanent operating input range (VDC)	Transient	Spike
MIL-STD-1275E	28	23-33	40V / 500mS 100V / 50mS	+/-250V / 70uS
MIL-STD-704F	28	22-29	50V / 50mS	N/A
RTCA DO-160G cat A/Z	28	20.5-32.2	80V / 100mS	+/-600V / 10uS

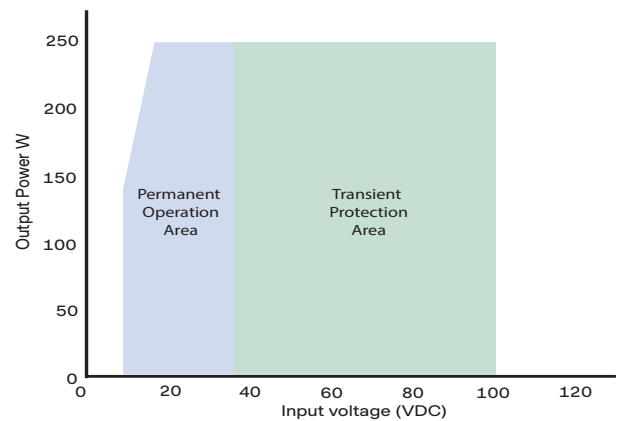
Environmental

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Operating temperature	-40		105	°C	See derating curve
Storage temperature	-55		125	°C	
Maximum case temperature			105	°C	
Operating Humidity	5		95	% RH	
Thermal shock					MIL-STD-810F
Vibration					MIL-STD-810F
MTBF					609.5 khrs

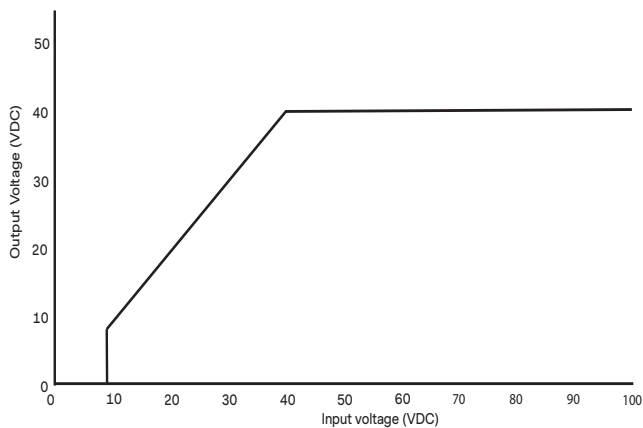
Transient limitation



Power Vs input voltage



Transfer Function



Derating Curve

