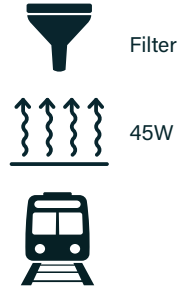


MCF-028005



DIMENSIONS:

1.6 x 1 x 0.4"
(40.6 x 25.4 x 10.2mm)

MIL-STD 1275E

INRUSH LIMIT

-40 to 100°C
OPERATION

MIL-STD 461G

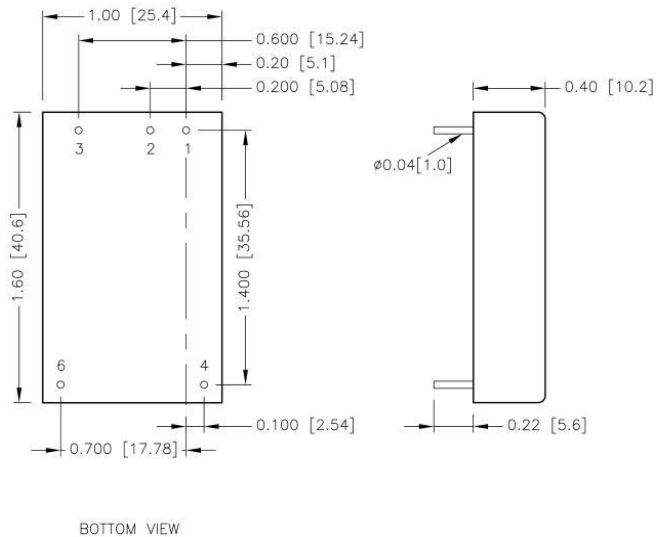
REVERSE POLARITY
PROTECTION

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	97%	5A

Mechanical



Pin/Function

1.	+Vin
2.	Ctrl
3.	-Vin
4.	+Vout
6.	-Vout

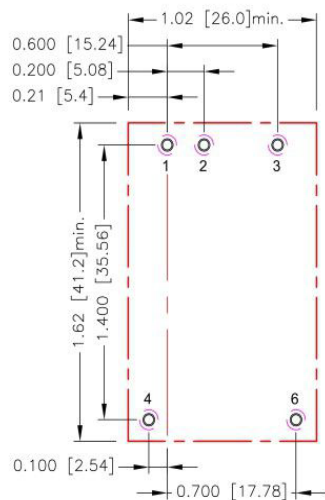
Notes

- 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]

Weight

19.7g

Layout



Pad size

Through hole 12346 0.051" (1.3mm)
Top view pad 12346 0.064" (1.63mm)
Bottom view pad 12346 0.102" (2.6mm)

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			97	%	
Output current			5	A	
Output power			45	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		12.5		A	Hiccup mode
Short circuit porteciton					Continuous automatic recovery

Safety

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Isolation: Output to ground	0			VAC	

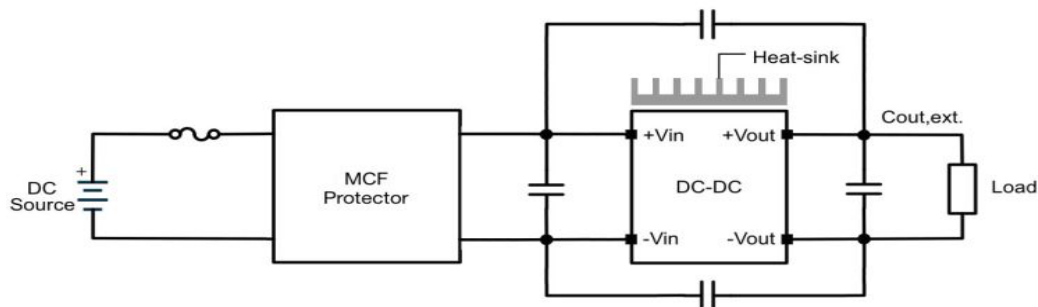
EMC: Immunity

	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

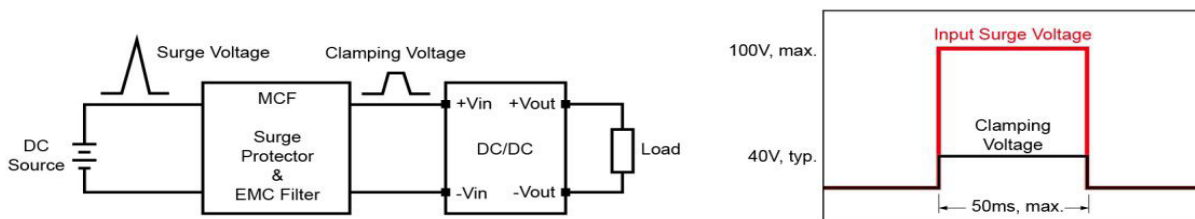
EMC: Emissions

	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:



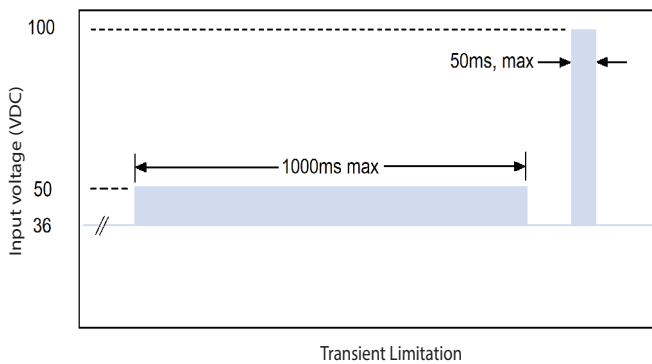
The surge protector can be used for 28V battery system in a MIL-STD-1275E application

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

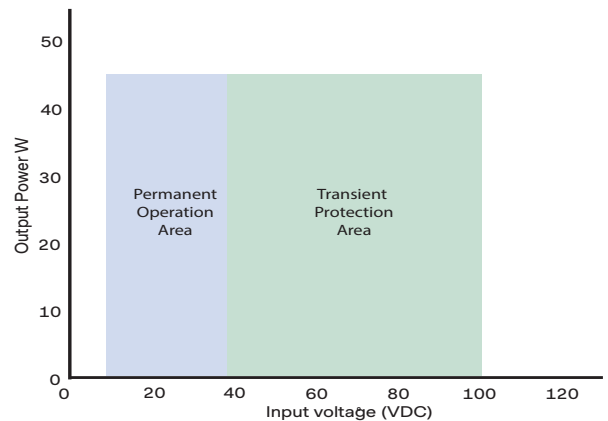
Environmental

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Operating temperature	-40		100	°C	See derating curve
Storage temperature	-55		125	°C	
Maximum case temperature			100	°C	
Operating Humidity	5		95	% RH	
Thermal shock					MIL-STD-810F
Vibration					MIL-STD-810F
MTBF					2.718 Mhrs

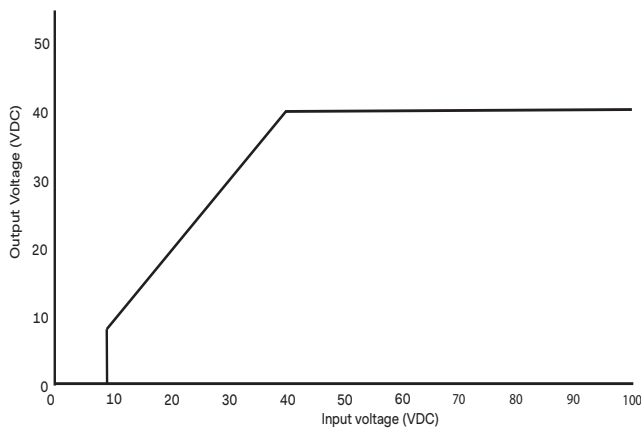
Transient limitation



Power Vs input voltage



Transfer Function



Derating Curve

