

**Features**

- Efficiency up to 80%
- 1500VDC Isolation
- Singl/Double output
- Continuous short circuit protection
- Over load protection
- Wide input voltage range ( 2:1/4:1 )
- Low ripple and noise
- Wide temperature -40 to 85



**Model Selection Guide**

Order Code	Vin(V)		Output		Recommend capacitive(uF)	Efficiency(%) (Typ)
	Nominal	Range	Vo(V)	Io(mA)		
DD20-12S05	12	9-18	5	4000	470	81
DD20-12S12			12	1667	470	83
DD20-12S15			15	1333	330	84
DD20-12S24			24	833	330	85
DD20-12D05			±5	±2000	220	80
DD20-12D12			±12	±833	220	83
DD20-12D15			±15	±667	150	84
DD(F)20-24S05	24	18-36 (F)9-36	5	4000	470	81
DD(F)20-24S12			12	1667	470	84
DD(F)20-24S15			15	1333	330	84
DD(F)20-24S24			24	833	330	85
DD(F)20-24D05			±5	±2000	220	80
DD(F)20-24D12			±12	±833	220	85
DD(F)20-24D15			±15	±667	150	85
DD(F)20-48S05	48	36-72 (F)18-72	5	4000	470	81
DD(F)20-48S12			12	1667	470	83
DD(F)20-48S15			15	1333	330	85
DD(F)20-48S24			24	833	330	86
DD(F)20-48D05			±5	±2000	220	80
DD(F)20-48D12			±12	±833	220	83
DD(F)20-48D15			±15	±667	150	85
DD20-110S05	110	70-160	5	4000	470	80
DD20-110S12			12	1667	470	82
DD20-110S15			15	1333	330	85
DD20-110S24			24	833	330	87
DD20-110D05			±5	±2000	220	82
DD20-110D12			±12	±833	220	84

**Input Characteristics**

Parameter	Condition	Min	Typ	Max	Units
Input Surge Voltage (1 sec. Max.)	12V Input Models	-0.7	--	25	VDC
	24V Input Models	-0.7	--	50	
	48V Input Models	-0.7	--	90	
	110V Input Models	-0.7	--	190	
Input Filter Type	All Models	Internal Capacitor			

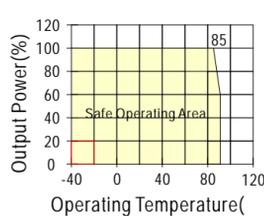
**Output Characteristics**

Parameter	Condition	Min	Typ	Max	Units
Output Voltage Accuracy	+Vo	--	1%	--	%
	-Vo	--	2%	3%	%
Load regulation	10% ~ 100% load	--	±0.5	±1	%
Line regulation	Vin(Min-Max)	±0.1	--	±0.5	%
Ripple and noise	BW=DC to 20MHz	--	50	100	mVp-p
Switching frequency	Full load,nominal input	--	300	400	KHz
Transient Recovery Time	25% Load Step Change	--	--	500	uS
Short circuit Protection	Continuous, Automatic Recovery				

**General Characteristics**

Parameter	Condition	Min	Typ	Max	Units
Operating Temperature	All output types	-40	--	+85	
Storage		-55	--	+125	
Storage humidity		--	--	+95	%
Cooling	Free air convection	--	--	--	
Isolation voltage	2mA 1minute	1000	--	--	VDC
Isolation resistance	500VDC	1000	--	--	M
MTBF	2 × 10 <sup>5</sup>				K hours
Case material		Metal			

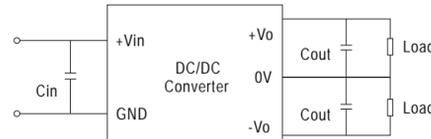
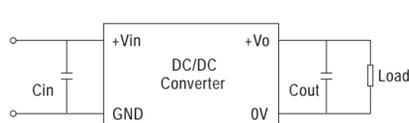
**Temperature Derating Graph Curve**



**Design & Feature Considerations**

**1. Input/Output Ripple Reduction**

Reduce output ripple, it is recommended to use capacitors at the input/output. It is recommended to use 10uF~100uF capacitors at the input; 47~220uF capacitors at the output.



**2. Overload Protection**

The products provide protection against overload, the unit is equipped with internal current limiting circuitry .

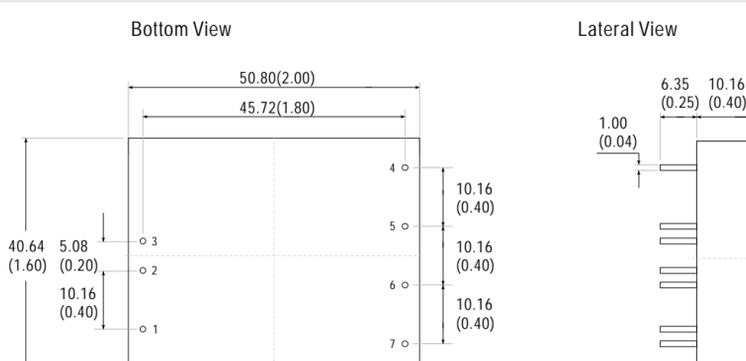
**3. Remote On/Off**

To turn the power module off  
Connect REM and -Vin, 0V < Vrem < 1 v, Irem < 1mA;  
To turn the power module on  
1) Connect REM and +Vin, 30V > Vrem > 5V;  
2) REM pin is no connected.

**Note**

1. All the specifications typical at Ta=+25 resistive load, nominal input voltage and rated output current unless otherwise noted.
2. Operation under no-load conditions will not damage these modules; however they may not meet all specifications listed.
3. Ripple & Noise measurement bandwidth is 0-20MHz.
3. Other input and output voltage may be available, please
4. All DC/DC converters should be externally fused at the front end for protection.
5. Specifications subject to change without notice

**Mechanical Dimension & Pin Connections**



Pin	1	2	3	4	5	6	7
Single	REM	-Vin	+Vin	NP	+Vo	-Vo	TRIM
Double	REM	-Vin	+Vin	+Vo	COM	-Vo	TRIM