

# 3 Watt SMT Dual Series DC/DC Converters

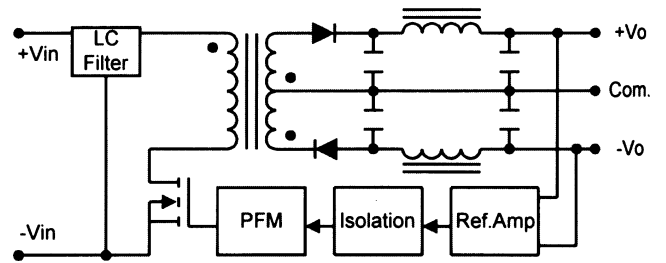


## Features

- SMT Technology
- 2:1 Input Range
- High Efficiency up to 83%
- I/O Isolation 1500VDC
- Short Circuit Protected
- CECC00802 Reflow
- MTBF > 1,000,000 Hours

**Selection Chart**

Model	Input Range VDC		Output		
	Min	Max	VDC	mA	Power W
12D5.300SMT	9	18	±5	±300	3
12D12.125SMT	9	18	±12	±125	3
12D15.100SMT	9	18	±15	±100	3
24D5.300SMT	18	36	±5	±300	3
24D12.125SMT	18	36	±12	±125	3
24D15.100SMT	18	36	±15	±100	3
48D5.300SMT	36	75	±5	±300	3
48D12.125SMT	36	75	±12	±125	3
48D15.100SMT	36	75	±15	±100	3



# 3 Watt SMT Dual Series DC/DC Converters

Input Parameters								
Model		12D5.300SMT	12D12.125SMT	12D15.100SMT	24D5.300SMT	24D12.125SMT	24D15.100SMT	Units
Voltage Range	MIN	9.0			18.0			VDC
	TYP	12.0			24.0			
	MAX	18.0			36.0			
Input Current No Load	TYP	20	20	20	5	5	5	mA
	Full Load	321	309	309	158	152	152	
Reflected Ripple	TYP	25			15			mA
Under Voltage Shutdown	MAX	8			16			VDC
Reverse Polarity Input Current	MAX	0.5						A
Short Circuit Input Power	MAX	1500						mW
Input Filter		Pi Filter						
Efficiency	TYP	78	81	81	79	82	82	%
Switching Frequency	TYP	300						kHz
Input Surge Voltage (1000 ms)	MIN	-0.7			-0.7			VDC
	MAX	25			50			
Internal Power Dissipation	MAX	2500						mW
Recommended Fuse		750 mA Slow Blow Type			350 mA Slow Blow Type			mA
Input Parameters								
Model		48D5.300SMT		48D12.125SMT		48D15.100SMT		Units
Voltage Range	MIN	36.0						VDC
	TYP	48.0						
	MAX	75.0						
Input Current No Load	TYP	3		3		3		mA
	Full Load	79		76		76		
Reflected Ripple	TYP	10						mA
Under Voltage Shutdown	MAX	32						VDC
Reverse Polarity Input Current	MAX	0.5						A
Short Circuit Input Power	MAX	1500						mW
Input Filter		Pi Filter						
Efficiency	TYP	79		82		82		%
Switching Frequency	TYP	300						kHz
Input Surge Voltage (1000 ms)	MIN	-0.7						VDC
	MAX	100						
Internal Power Dissipation	MAX	2500						mW
Recommended Fuse		200 mA Slow Blow Type						mA

# 3 Watt SMT Dual Series DC/DC Converters

Output Parameters					
Model		12D5.300SMT 24D5.300SMT 48D5.300SMT	12D12.125SMT 24D12.125SMT 48D12.125SMT	12D15.100SMT 24D15.100SMT 48D15.100SMT	Units
Output Voltage		±5	±12	±15	VDC
Output Current	MIN	±30	±12.5	±10	mA
	MAX	±300	±125	±100	
Output Voltage Accuracy	TYP	±0.5			%
	MAX	±1.0			
Output Voltage Balance, Dual Output Balance Load	TYP	±0.5			%
	MAX	±1.0			
Load Regulation, I <sub>o</sub> =10% to 100%	TYP	±0.3			%
	MAX	±1.0			
Line Regulation, V <sub>in</sub> =Min. to Max.	TYP	±0.1			%
	MAX	±0.3			
Ripple & Noise (20MHz)	TYP	50			mV P-P
	MAX	75			
Ripple & Noise (20MHZ), Over Line, Load & Temp	MAX	100			mV P-P
Ripple & Noise (20MHZ)	MAX	10			mV RMS
Over Load	MIN	120			%
Transient Recovery Time, 25% Load Step Change	TYP	200			µs
	MAX	500			
Transient Response Deviation, 25 % Load Step Change	TYP	±2			%
	MAX	±6			
Temperature Coefficient	TYP	±0.01			% / °C
	MAX	±0.02			
Short Circuit	Continuous				

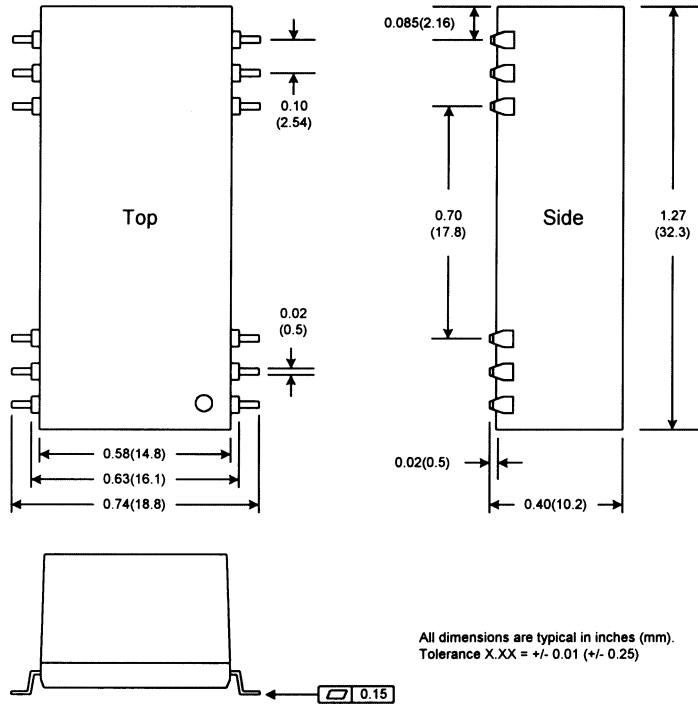
## NOTES

- (1) Specifications typical at T<sub>a</sub>=+25°C, resistive load, nominal input voltage, rated output current unless otherwise noted.
- (2) Transient recovery time is measured to within 1% error band for a step change in output load 75% to 100%
- (3) When measuring output ripple & noise, an external 0.1µF ceramic capacitor is recommended to be placed from each output to common.
- (4) Specifications subject to change without notice.

General Specifications			
All Models			Units
<b>Isolation</b>			
Isolation Voltage, 60 Seconds	MIN	1500	VDC
Isolation Resistance, 500 VDC	TYP	1000	Mohms
Isolation Capacitance, 100kHz, 1V	TYP	65	pF
	MAX	100	
<b>Environmental</b>			
Operating Temperature	MIN	-40	°C
	MAX	+71	
Storage Temperature	MIN	-40	°C
	MAX	+125	
Humidity	MAX	95	%
Cooling	Free-Air Convection		
<b>General</b>			
Case Size	1.27 x 0.74 x 0.4 inches 32.3 x 18.8 x 10.2mm		
Case Material	Non-Conductive Black Plastic		
Weight	10g		

# 3 Watt SMT Dual Series DC/DC Converters

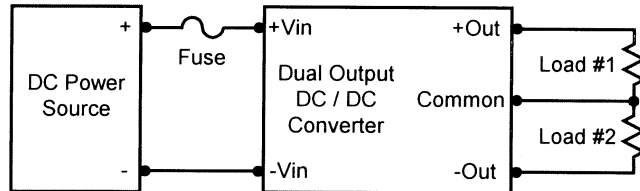
## Mechanical Configuration



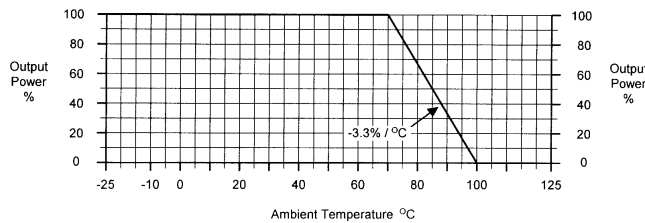
Pin	Function
1, 2	-INPUT
10	CMN
3, 11, 14, 22	NC
12	-OUTPUT
13	+OUTPUT
15	CMN
23, 24	+INPUT

NC: No Connection

## Typical Application



## Derating Curve



## Connecting Pin Patterns

