

Military DC-DC Converters

Series LFB/LMB Single and Series LFB/LMB Dual

**Isolated Regulated 75 Watts, Wide Input Range/36-72 VDC
Fully Regulated, Short Circuit Protected
Parallel Operation Available**

Features:

- Dual isolated outputs
- Short circuit protection
- Input voltage protection
- Thermal, over temp. shutdown
- Line regulation
- Load regulation
- No external components required
- Hi density, hi efficiency design
- Remote shutdown
- Trim capabilities
- Fixed frequency-100 Khtz

46 Standard Models

For all variations, call factory.

For Parallel Operation: Add suffix "P"

(i.e. LFB /LMB 5SP). Consult factory to optimize for your application.

Series LFB : (-40° C to +85° C Operating Temperature)

Series LMB : (-55° C to +85° C Operating Temperature)

Typical Characteristics:

Frequency: 100 Khtz

Base plate: Max. +85° C

Operating temperature: See thermal chart: -40° C to +85° C base plate, -55° C to +85° C base plate.

Test conditions: 25° C ambient

Isolation Base Input: 2121 VDC

Isolation Input Output: 4242 VDC

Isolation Output to Base: 1000 VDC

Storage temperature: -55° C to +105° C

Surge: Meets MIL STD 704

Vibration: Meets MIL STD 202 Method 204 Cond. D

Humidity: Meets MIL STD 202 Method 106

Shock: Meets MIL STD 202 Method 213 Cond. I

Altitude: Meets MIL STD 202 Method 105 Cond. D

Selected MIL STD 883 Options also Available

Stabilization Bake: MIL STD 883 Method 1008 24 Hrs TA=125° C

Burn In: MIL STD 883 Method 1015 160 Hrs at 90° C, case

Temperature Cycle: MIL STD 883, -55°C to +105°C, Method 1010 Cond. B

The PICO LFB and LMB Series of high power DC-DC Converters, allow a wide input voltage of 36-72 VDC, while maintaining a regulated output. They are fully safeguarded for over voltage, over temperature and continuous short circuit protection.

The availability of Dual Isolated outputs, small size, and the capability of parallel operation as standard features should reduce your design and component costs, while the fixed frequency operation helps parallel connections for higher power requirements.

This high density unit is assembled in the USA with PICO quality and component selection, allowing it to meet the most stringent commercial requirements.

Series LFB/LMB Single * 75 Watts * Input 36-72 VDC

Input Volt. Range (V DC)	Output Voltage (V DC)	Max. Output Power * (W)	EFF. Full Load Typical ** (%)	Max. Load Regulation (%)**		Max. Line Regulation At Full Load (%)		Output Voltage Ripple (Full Load) 1-1MHz BW (MV P-P)	Output Voltage Toler. ** (± %)	Series LFB Single (-40° C to +85° C)		Series LMB Single (-55° C to +85° C)	
				10 - 50%	50- 100%	36-48V	48-72V			Pico Part Number	Price (US \$)	Pico Part Number	Price (US \$)
36-72	3.3	30	74	1.5	1.5	0.75	0.75	50	2.0	LFB3.3S	324.92	LMB3.3S	455.50
36-72	5	50	80	1.0	1.0	0.75	0.75	50	1.5	LFB5S	324.92	LMB5S	455.50
36-72	5.2	50	80	1.0	1.0	0.75	0.75	50	1.5	LFB5.2S	324.92	LMB5.2S	455.50
36-72	9	65	84	1.0	1.0	0.75	0.75	50	1.0	LFB9S	324.92	LMB9S	455.50
36-72	12	75	84	0.75	0.75	0.5	0.5	50	1.0	LFB12S	324.92	LMB12S	455.50
36-72	15	75	84	0.75	0.75	0.5	0.5	50	1.0	LFB15S	324.92	LMB15S	455.50
36-72	24	75	87	0.5	0.5	0.5	0.5	50	0.5	LFB24S	324.92	LMB24S	455.50
36-72	28	75	87	0.5	0.5	0.5	0.5	50	0.5	LFB28S	324.92	LMB28S	455.50
36-72	48	75	85	0.5	0.5	0.5	0.5	50	0.5	LFB48S	324.92	LMB48S	455.50
36-72	100	75	85	0.5	0.5	0.5	0.5	100	0.5	LFB100S	487.38	LMB100S	683.25

10% Minimum load required at all times.
* Using proper thermal management, maximum temp. of +85° C (case)
** Reading taken at nominal 48 VDC input

Series LFB/LMB Dual * 75 Watts * Input 36-72 VDC

Input Volt. Range (V DC)	Output Voltage (V DC)	Max. Output Power * (W)	EFF. Full Load Typical ** (%)	Max. Load Regulation (%)**		Max. Line Regulation At Full Load (%)		Output Voltage Ripple (Full Load) 1-1MHz BW (MV P-P)	Output Voltage Toler. ** (± %)	Series LFB Dual (-40° C to +85° C)		Series LMB Dual (-55° C to +85° C)	
				10-50%	50- 100%	36-48V	48-72V			Pico Part Number	Price (US \$)	Pico Part Number	Price (US \$)
36-72	5	50	80	1	1	0.75	0.75	50	1.5	LFB5D	438.27	LMB5D	614.39
36-72	9	65	84	1	1	0.75	0.75	50	1	LFB9D	438.27	LMB9D	614.39
36-72	12	75	84	0.75	0.75	0.5	0.5	50	1	LFB12D	438.27	LMB12D	614.39
36-72	15	75	85	0.75	0.75	0.5	0.5	50	1	LFB15D	438.27	LMB15D	614.39
36-72	24	75	87	0.5	0.5	0.5	0.5	50	0.5	LFB24D	438.27	LMB24D	614.39
36-72	28	75	87	0.5	0.5	0.5	0.5	50	0.5	LFB28D	438.27	LMB28D	614.39
36-72	48	75	85	0.5	0.5	0.5	0.5	50	0.5	LFB48D	438.27	LMB48D	614.39

10% Minimum load required at all times.
* Using proper thermal management, maximum temp. of +85° C (case)
** Reading taken at nominal 48 VDC input

****HIGH VOLTAGE SERIES LFB/ LMB

TO 250 VDC - 50 WATTS - INPUT 36-72 VDC

INPUT VOLTAGE RANGE (V DC)	OUTPUT VOLTAGE (V DC)	MAX. OUTPUT POWER (W)*	EFF. @ FULL LOAD TYP. (%)**	MAX. LOAD REGULATION (%)**		MAX. LINE REGULATION AT FULL LOAD (%)		OUTPUT VOLTAGE RIPPLE FULL LOAD 1-1MHz BW (%)	OUTPUT VOLTAGE Tolerance (±%)**	SERIES LFB SINGLE -40°C TO +85°C		SERIES LMB SINGLE (-55°C TO +85°C)	
				20-50%	50-100%	36-48V	48-72V			PICO PART NUMBER	PRICE (US \$)	PICO PART NUMBER	PRICE (US \$)
36-72	125	50	84	0.5	0.5	0.3	0.3	1	0.5	LFB125S	487.38	LMB125S	683.25
36-72	150	50	84	0.5	0.5	0.3	0.3	1	0.5	LFB150S	487.38	LMB150S	683.25
36-72	175	50	84	0.5	0.5	0.3	0.3	1	0.5	LFB175S	487.38	LMB175S	683.25
36-72	200	50	84	0.5	0.5	0.3	0.3	1	0.5	LFB200S	649.85	LMB200S	911.00
36-72	225	50	84	0.5	0.5	0.3	0.3	1	0.5	LFB225S	649.85	LMB225S	911.00
36-72	250	50	84	0.5	0.5	0.3	0.3	1	0.5	LFB250S	649.85	LMB250S	911.00

10% Minimum load required at all times

*Using proper thermal management, maximum temp of +85°C (case)

**Reading taken at nominal 48 VDC input

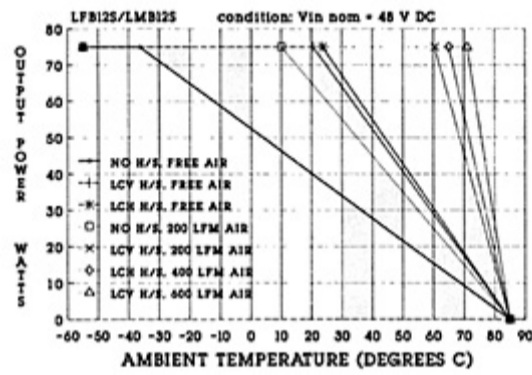
***UL approval recognition pending

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Full thermal analysis can be determined using application notes on page 124. By using the efficiency and thermal resistance of your desired unit to the formula you can complete your evaluation. The curves below were generated for Part #LFB125S/LMB125S using Application Notes. Please consult factory with any questions.



[Larger Version of Graph \[4\]](#)

For immediate engineering assistance or to place an order: **Call Toll Free: 800-431-1064**

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