

# MILITARY

**SERIES LFA** (-40°C to +85°C Operating Temperature)

**SERIES LMA** (-55°C to +85°C Operating Temperature)

**3.3 to 200 VDC Outputs Available**

**Isolated Regulated 75 Watts**

**DC-DC Converters**

**Wide Input Range/ 18-36 VDC**

**Fully Regulated**

**Short Circuit Protected**

**± Parallel Operation**

**Dual Isolated Outputs  
Special Voltage  
Combinations Available**

**Hi Density  
75 Watts**

**Fixed  
Frequency**

The new PICO Series LFA and LMA of high power DC-DC Converters allow a wide input voltage of 18-36 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.

**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

**TYPICAL CHARACTERISTICS:**

**Frequency:** 100 Khtz  
**Base plate:** Max. +85° C  
**Operating Temp.:** 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 Temp.:** - 55° C to +105° C

For All Variations Call Factory

**SERIES LFA**

(-40°C to +85°C Operating Temperature)

**SERIES LMA**

(-55°C to +85°C Operating Temperature)

<b>SURGE</b>	Meets MIL STD 704
<b>VIBRATION</b>	Meets MIL STD 202 Method 204 Cond. D
<b>HUMIDITY</b>	Meets MIL STD 202 Method 106
<b>SHOCK</b>	Meets MIL STD 202 Method 213 Cond. I
<b>ALTITUDE</b>	Meets MIL STD 202 Method 105 Cond. D
<b>Selected MIL STD 883 Options also Available</b>	
<b>STABILIZATION</b>	MIL STD 883
<b>BAKE</b>	Method 1008 24 Hrs TA=125°C
<b>BURN IN</b>	MIL STD 883 Method 1015 160 Hrs at 90°C
<b>TEMPERATURE CYCLE</b>	MIL STD 883 Method 1010 Cond. B

**SERIES LFA/LMA SINGLE - 75 WATTS - INPUT 18-36 VDC**

INPUT VOLT-AGE RANGE (VDC)	OUTPUT VOLTAGE (V DC)	MAX. OUTPUT POWER (W)	EFF. @ FULL LOAD TYPICAL (%)	MAX LOAD REGULATION (%) **				OUTPUT VOLTAGE RIPPLE FULL LOAD 1-1 MHz BW (MVP-P)	OUTPUT VOLTAGE TOLERANCE (±%)**	Series LFA single (-40°C to +85°C)		Series LMA single (-55°C to +85°C)	
				10-50%		50-100%				PICO PART NUMBER	PRICE	PICO PART NUMBER	PRICE
				18-28	28-36	18-28	28-36						
18-36	3.3	30	73	1.5	1.5	1	1	50	2	LFA3.3S	258.00	LMA3.3S	387.00
18-36	5	50	80	1.25	1.25	1	1	50	1.5	LFA5S	258.00	LMA5S	387.00
18-36	5.2	50	80	1.25	1.25	1	1	50	1.5	LFA5.2S	258.00	LMA5.2S	387.00
18-36	9	60	84	1.25	1.25	1	1	50	1	LFA9S	258.00	LMA9S	387.00
18-36	12	60	85	1.25	1.25	1	1	50	0.75	LFA12S	258.00	LMA12S	387.00
18-36	15	65	85	1	1	0.75	0.75	50	0.75	LFA15S	258.00	LMA15S	387.00
18-36	24	75	87	0.75	0.75	0.5	0.5	50	0.75	LFA24S	258.00	LMA24S	387.00
18-36	28	75	87	0.5	0.5	0.5	0.5	50	0.5	LFA28S	258.00	LMA28S	387.00
18-36	48	75	85	0.5	0.5	0.5	0.5	50	0.5	LFA48S	258.00	LMA48S	387.00
18-36	100	75	85	0.5	0.5	0.5	0.5	100	0.5	LFA100S	387.00	LMA100S	580.50

10% Minimum load required at all times \*\*Reading taken at nominal 28 VDC input  
 \*Using proper thermal management maximum temp of + 85°C (case)

**SERIES LFA/LMA DUAL - 75 WATTS - INPUT 18-36 VDC**

INPUT VOLT-AGE RANGE (VDC)	OUTPUT VOLTAGE (V DC)	MAX. OUTPUT POWER (W)	EFF. @ FULL LOAD TYPICAL (%)	MAX LOAD REGULATION (%) **				OUTPUT VOLTAGE RIPPLE FULL LOAD 1-1 MHz BW (MVP-P)	OUTPUT VOLTAGE TOLERANCE (±%)**	Series LFA single (-40°C to +85°C)		Series LMA single (-55°C to +85°C)	
				10-50%		50-100%				PICO PART NUMBER	PRICE	PICO PART NUMBER	PRICE
				18-28	28-36	18-28	28-36						
18-36	5	50	80	1.25	1.25	1	1	50	1.5	LFA5D	348.00	LMA5D	522.00
18-36	9	60	84	1.25	1.25	1	1	50	1	LFA9D	348.00	LMA9D	522.00
18-36	12	60	85	1.25	1.25	1	1	50	0.75	LFA12D	348.00	LMA12D	522.00
18-36	15	65	85	1	1	0.75	0.75	50	0.75	LFA15D	348.00	LMA15D	522.00
18-36	24	75	87	0.75	0.75	0.5	0.5	50	0.5	LFA24D	348.00	LMA24D	522.00
18-36	28	75	87	0.5	0.5	0.5	0.5	50	0.5	LFA28D	348.00	LMA28D	522.00
18-36	48	75	85	0.5	0.5	0.5	0.5	50	0.5	LFA48D	348.00	LMA48D	522.00

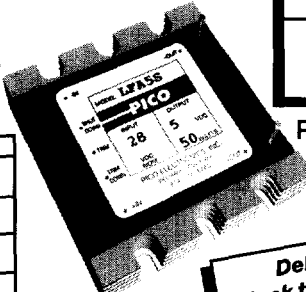
10% Minimum load required at all times \*\*Reading taken at nominal 28 VDC input  
 \*Using proper thermal management maximum temp of + 85°C (case)

**±HIGH VOLTAGE SERIES LFA/LMA TO 200 VDC - 50 WATTS - INPUT 18-36 VDC**

INPUT VOLT-AGE RANGE (VDC)	OUTPUT VOLTAGE (V DC)	MAX. OUTPUT POWER (W)	EFF. @ FULL LOAD TYPICAL (%)**	MAX LOAD REGULATION (%) **				OUTPUT VOLTAGE RIPPLE FULL LOAD 1-1 MHz BW (%)	OUTPUT VOLTAGE TOLERANCE (±%)**	PICO PART NUMBER	PRICE	PICO PART NUMBER	PRICE
				20-50%		50-100%							
				18-28VDC	28-36VDC	18-28VDC	28-36VDC						
18-36	125	50	82	0.5	0.5	0.3	0.3	1	0.5	LFA125S	387.00	LMA125S	580.50
18-36	150	50	82	0.5	0.5	0.3	0.3	1	0.5	LFA150S	387.00	LMA150S	580.50
18-36	175	50	82	0.5	0.5	0.3	0.3	1	0.5	LFA175S	387.00	LMA175S	580.50
18-36	200	50	82	0.5	0.5	0.3	0.3	1	0.5	LFA200S	516.00	LMA200S	774.00

10% Minimum load required at all times \*\*Reading taken at nominal 28 VDC input  
 \*Using proper thermal management maximum temp of + 85°C (case)  
 †UL approval recognition pending

**Application Notes  
page 138  
Mechanical  
Configuration  
page 140**



**Patented**

**Delivery -  
stock to one week**

**200 VDC  
Output  
Models**

**±Parallel  
Operation**  
Consult factory to  
optimize for your  
application

Full thermal analysis can be determined using application notes on page 138. 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 #LFA24S/LMA24S using Application Notes. Please consult factory with any questions.

