

MILITARY



SERIES FD (-40°C to +85°C Operating Temperature)
SERIES MD (-55°C to +85°C Operating Temperature)

CALUS

3.3 to 350 VDC Outputs Available
Isolated Regulated 100 Watts
DC-DC Converters
Wide Input Range/200-380 VDC
Short Circuit Protected
± Parallel Operation

SERIES FD/MD SINGLE - 100 WATTS - INPUT 200-380 VDC

INPUT VOLTAGE 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 1-1 MHz BW (mV p-p)	OUTPUT VOLTAGE TOLERANCE (±%) *	Series FD single (-40°C to +85°C)		Series MD single (-55°C to +85°C)	
				10-50%	50-100%	200-300V	300-380V			PICO PART NUMBER	PRICE	PICO PART NUMBER	PRICE
200-380	3.3	50	76	1.50	1.50	1.25	1.25	50	2	FD3.3S	208.00	MD3.3S	312.00
200-380	5	75	78	1.25	1.25	1.00	1.00	50	1.5	FD5S	208.00	MD5S	312.00
200-380	5.2	75	78	1.25	1.25	1.00	1.00	50	1.5	FD5.2S	208.00	MD5.2S	312.00
200-380	9	100	84	1.25	1.25	1.00	1.00	50	1	FD9S	208.00	MD9S	312.00
200-380	12	100	85	1.00	1.00	0.75	0.75	50	1	FD12S	208.00	MD12S	312.00
200-380	15	100	86	1.00	1.00	0.75	0.75	50	1	FD15S	208.00	MD15S	312.00
200-380	24	100	87	0.75	0.75	0.50	0.50	50	0.5	FD24S	208.00	MD24S	312.00
200-380	28	100	87	0.50	0.50	0.50	0.50	50	0.5	FD28S	208.00	MD28S	312.00
200-380	48	100	88	0.50	0.50	0.20	0.20	50	0.5	FD48S	208.00	MD48S	312.00
200-380	100	100	88	0.50	0.50	0.20	0.20	50	0.5	FD100S	312.00	MD100S	468.00

10% Minimum load required at all times

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

**Reading taken at nominal 300 VDC input

The new PICO Series FD and MD of high power DC-DC Converters allow a wide input voltage of 200-380 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 FD/MD DUAL - 100 WATTS - INPUT 200-380 VDC

CALUS

INPUT VOLTAGE 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 1-1 MHz BW (mV p-p)	OUTPUT VOLTAGE TOLERANCE (±%) *	Series FD single (-40°C to +85°C)		Series MD single (-55°C to +85°C)	
				10-50%	50-100%	200-300V	300-380V			PICO PART NUMBER	PRICE	PICO PART NUMBER	PRICE
200-380	5	37.5/37.5	78	1.25	1.25	1.00	1.00	50	1.5	FD5D	298.00	MD5D	447.00
200-380	9	50/50	84	1.25	1.25	1.00	1.00	50	1.0	FD9D	298.00	MD9D	447.00
200-380	12	50/50	85	1.00	1.00	0.75	0.75	50	1.0	FD12D	298.00	MD12D	447.00
200-380	15	50/50	86	1.00	1.00	0.75	0.75	50	1.0	FD15D	298.00	MD15D	447.00
200-380	24	50/50	87	0.75	0.75	0.50	0.50	50	0.5	FD24D	298.00	MD24D	447.00
200-380	28	50/50	87	0.50	0.50	0.50	0.50	50	0.5	FD28D	298.00	MD28D	447.00
200-380	48	50/50	88	0.50	0.50	0.50	0.50	50	0.5	FD48D	298.00	MD48D	447.00

10% Minimum load required at all times

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

**Reading taken at nominal 300 VDC input

HIGH VOLTAGE SERIES FD/MD TO 350 VDC - 100 WATTS - INPUT 200-380 VDC

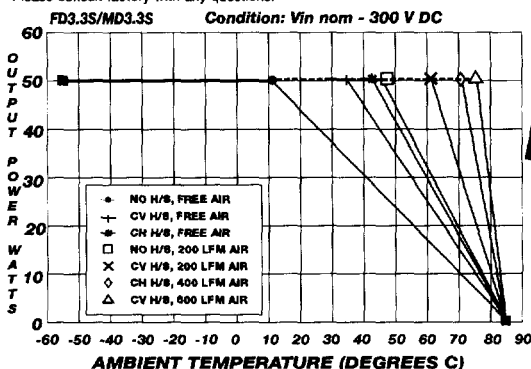
INPUT VOLTAGE RANGE (V DC)	OUTPUT VOLTAGE (V DC)	MAX. OUTPUT POWER (W)	EFF. @ FULL LOAD TYPICAL (%)	MAX LOAD REGULATION (%) **		MAX LINE REGULATION AT FULL LOAD (%)		OUTPUT VOLTAGE RIPPLE FULL LOAD 1-1 MHz BW (mV p-p)	OUTPUT VOLTAGE TOLERANCE (±%) *	PICO PART NUMBER	PRICE	PICO PART NUMBER	PRICE
				10-50%	50-100%	200-300V	300-380V						
200-380	125	100	85	0.5	0.5	0.3	0.3	1	0.5	FD125S	312.00	MD125S	468.00
200-380	150	100	85	0.5	0.5	0.3	0.3	1	0.5	FD150S	312.00	MD150S	468.00
200-380	175	100	85	0.5	0.5	0.3	0.3	1	0.5	FD175S	312.00	MD175S	468.00
200-380	200	100	85	0.5	0.5	0.3	0.3	1	0.5	FD200S	416.00	MD200S	624.00
200-380	225	100	85	0.5	0.5	0.3	0.3	1	0.5	FD225S	416.00	MD225S	624.00
200-380	250	100	85	0.5	0.5	0.3	0.3	1	0.5	FD250S	416.00	MD250S	624.00
200-380	275	100	85	0.5	0.5	0.3	0.3	1	0.5	FD275S	416.00	MD275S	624.00
200-380	300	100	85	0.5	0.5	0.3	0.3	1	0.5	FD300S	520.00	MD300S	780.00
200-380	325	100	85	0.5	0.5	0.3	0.3	1	0.5	FD325S	520.00	MD325S	780.00
200-380	350	100	85	0.5	0.5	0.3	0.3	1	0.5	FD350S	520.00	MD350S	780.00

**Reading taken at nominal 300 VDC input

10% Minimum load required at all times

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

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 #FD3.3S/MD3.3S using Application Notes. Please consult factory with any questions.



Application Notes
page 138
Mechanical
Configuration
page 142

Dual Isolated Outputs
Special Voltage
Combinations Available

± Parallel Operation

Consult factory to optimize for your application

TYPICAL CHARACTERISTICS:

Frequency: 100 KHz

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 FD

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

SERIES MD

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

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
TEMPERATURE CYCLE	MIL STD 883 -55°C to +105°C Method 1010 Cond. B