

PART II — DC-TO-DC CONVERTERS

LAMBDA'S MIL-ENVIRONMENT DSR SERIES



IDEAL FOR TELECOMMUNICATIONS, DISTRIBUTED POWER AND BATTERY SYSTEMS

- ☐ From 30W to 50W.
- ☐ 20 new models.
- ☐ 0–71°C operating temperature.
- ☐ Five year guarantee.
- ☐ Available from stock.
- ☐ 18–32VDC or 32–63VDC inputs available.
- ☐ Grade 1 design.

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DC OUTPUT

Voltage range shown in tables.

REGULATED VOLTAGE

regulation, line 0.4% for variations over the entire input range.
regulation, load 0.8% for output changes from no load to full load or full load to no load.
ripple and noise 100mV pk-pk on 5V models.
170mV pk-pk on 12V models.
200mV pk-pk on 15V models.
290mV pk-pk on 24V models.
530mV pk-pk on 48V models.
temperature coefficient 0.03%/°C.

DC INPUT

line 18-32VDC for 24V models.
32-63VDC for 48V models.

EFFICIENCY

Model	Typical Efficiency
DSR-30-5-24; DSR-50-5-24	73%
DSR-30-5-48	75%
DSR-50-5-48	76%
DSR-30-12-24; DSR-30-15-24	77%
DSR-30-24-24; DSR-30-48-24; DSR-50-12-24; DSR-50-15-24	78%
DSR-30-12-48; DSR-30-15-48; DSR-30-24-40; DSR-30-48-48	79%
DSR-50-24-24; DSR-50-12-48; DSR-50-15-48	80%
DSR-50-24-48; DSR-50-48-24	81%
DSR-50-48-48	82%

OPERATING TEMPERATURE RANGE

0°C to +71°C. Operation above 60°C requires forced air cooling.

STORAGE TEMPERATURE RANGE

-40°C to +85°C.

OVERLOAD PROTECTION

All models have a constant current profile which will shut the set off if overcurrent exists for more than 5 seconds.

OVERVOLTAGE PROTECTION

OV protection is standard on all models.

COOLING

The DSR Series requires forced air for operation above 60°C ambient.

MOUNTING

The DSR Series has three mounting surfaces, one mounting position.

DC OUTPUT CONTROLS

Simple screwdriver adjustment over the entire adjustable range.

REMOTE TURN-ON/TURN-OFF

The DSR Series is capable of remote on-off via a TTL compatible signal.

ISOLATION

1500VAC input-to-output isolation.

PHYSICAL DATA

Package Model	Lbs. Net	Lbs. Ship	Size Inches
DSR-30	0.95	1.2	5.91 × 1.5 × 3.82
DSR-50	1.1	1.5	6.69 × 1.65 × 3.82

SAFETY AGENCY APPROVALS

The DSR Series is UL recognized and CSA certified.

GUARANTEE

Five year guarantee includes labor as well as parts.

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MIL-ENVIRONMENT CONVERTER SELECTOR GUIDE

DSR-24 Series. 18-32VDC Input. Single Output. Chassis Mount.

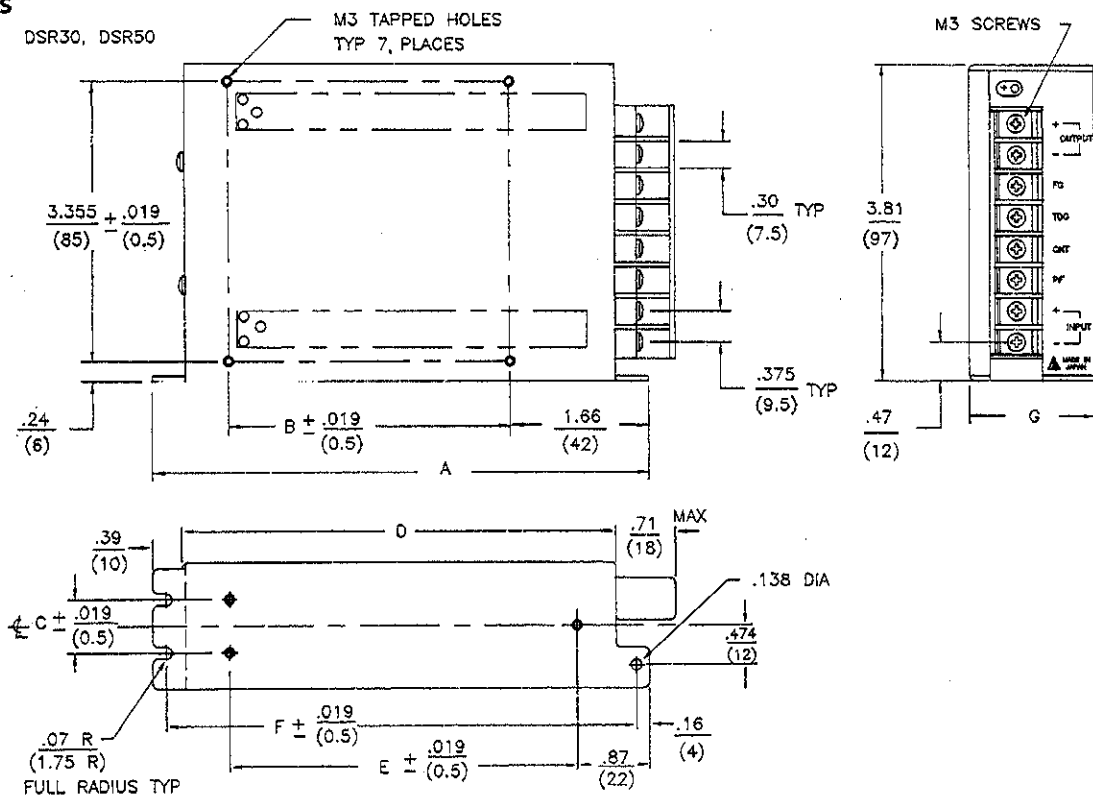
MAX CURRENT AT OPERATING TEMPERATURE OF				COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	QTY. 1	PRICE QTY. 10	QTY. 25	MODEL
40°C	50°C	60°C	71°C*							
5V ± 5% ADJ.										
6.00	6.00	4.20	3.00	101	183	1.50 × 3.82 × 5.91	\$275	\$260	\$250	DSR30-5-24
10.00	10.00	7.00	5.00	101	183	1.65 × 3.82 × 6.69	340	325	311	DSR50-5-24
12V ± 5% ADJ.										
2.50	2.50	1.75	1.25	101	183	1.50 × 3.82 × 5.91	275	260	250	DSR30-12-24
4.30	4.30	3.01	2.15	101	183	1.65 × 3.82 × 6.69	340	325	311	DSR50-12-24
15V ± 5% ADJ.										
2.00	2.00	1.40	1.00	101	183	1.50 × 3.82 × 5.91	275	260	250	DSR30-15-24
3.40	3.40	2.38	1.70	101	183	1.65 × 3.82 × 6.69	340	325	311	DSR50-15-24
24V ± 5% ADJ.										
1.30	1.30	.91	.65	101	183	1.50 × 3.82 × 5.91	275	260	250	DSR30-24-24
2.10	2.10	1.47	1.05	101	183	1.65 × 3.82 × 6.69	340	325	311	DSR50-24-24
48V ± 5% ADJ.										
.70	.70	.49	.35	101	183	1.50 × 3.82 × 5.91	275	260	250	DSR30-48-24
1.10	1.10	.77	.55	101	183	1.65 × 3.82 × 6.69	340	325	311	DSR50-48-24

DSR-48 Series. 32-63VDC Input. Single Output. Chassis Mount.

MAX CURRENT AT OPERATING TEMPERATURE OF				COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	QTY. 1	PRICE QTY. 10	QTY. 25	MODEL	
40°C	50°C	60°C	71°C*								
5V ± 5% ADJ.											
6.00	6.00	4.20	3.00	101	183	1.50 × 3.82 × 5.91	\$275	\$260	\$250	DSR30-5-48	
10.00	10.00	7.00	5.00	101	183	1.65 × 3.82 × 6.69	340	325	311	DSR50-5-48	
12V ± 5% ADJ.											
2.50	2.50	1.75	1.25	101	183	1.50 × 3.82 × 5.91	275	260	250	DSR30-12-48	
4.30	4.30	3.01	2.15	101	183	1.65 × 3.82 × 6.69	340	325	311	DSR50-12-48	
15V ± 5% ADJ.											
2.00	2.00	1.40	1.00	101	183	1.50 × 3.82 × 5.91	275	260	250	DSR30-15-48	
3.40	3.40	2.38	1.70	101	183	1.65 × 3.82 × 6.69	340	325	311	DSR50-15-48	
24V ± 5% ADJ.											
1.30	1.30	.91	.65	101	183	1.50 × 3.82 × 5.91	275	260	250	DSR30-24-48	
2.10	2.10	1.47	1.05	101	183	1.65 × 3.82 × 6.69	340	325	311	DSR50-24-48	
48V ± 5% ADJ.											
.70	.70	.49	.35	101	183	1.50 × 3.82 × 5.91	275	260	250	DSR30-48-48	
1.10	1.10	.77	.55	101	183	1.65 × 3.82 × 6.69	340	325	311	DSR50-48-48	

DSP SERIES AND LZ SERIES

DSR SERIES



MODE \ DIM	A	B	C	D	E	F	G
DRS30	5.92 (150)	3.355 (85)	.635 (16)	5.13 (130)	4.144 (105)	5.605 (142)	1.50 (38)
DRS50	6.91 (170)	4.144 (105)	.789 (20)	5.92 (150)	4.934 (125)	6.394 (162)	1.66 (42)

NOTE:

1. ALL DIMENSIONS ARE GIVEN IN INCHES OVER MILLIMETERS.
2. UNLESS OTHERWISE SPECIFIED TOLERANCE IS $\pm .04$ INCHES (1MM).