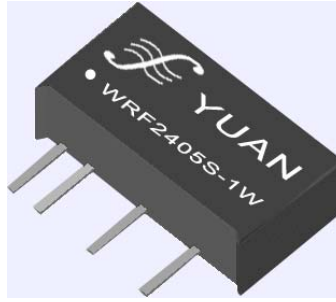


WRFXXXXS/D-1W SERIES DC-DC CONVERTER

- **SHORT CIRCUIT PROTECTION**
- **SIP/DIP PACKAGE STYLE**
- **SINGLE OUTPUT VOLTAGE**
- **INDUSTRIAL STANDARD PIN-OUT**
- **NO HEAT SINK REQUIRED**
- **3KVDC ISOLATION**
- **REGULATED OUTPUT VOLTAGE**
- **PCB MOUNTING**



ROHS COMPLIANT

Application:

- **Specialy for electric load management terminal**
- **RS485/RS232/RS422/USB/IEEE1394 interface**
- **Isolation static**

ELECTRICAL SPECIFICATIONS:

(All specifications tested typically @ 25°C, humidity<75%, nominal input and rated output unless otherwise noted.)

OUTPUT SPECIFICATIONS

Items:	Testing condition	Min	Typ	Max
Output accuracy:	At full load and nominal Vin			±2%
Output power:				1W
Line regulation:	Input voltage from low to full load	+/- 0,5 % max., (3.3 VDC output +/- 1 % max)		
Load regulation:	No load to full load	+/- 0,5 % typ., +/- 1 % max.		
Ripple and noise:				50mVp-p
Temperature drift:				±0.02 %/°C
Minimum load				10%
Switching frequency			120K HZ	
Over load protection	% of FL at nominal input, refer to figure			
Short circuit protection	Continuous >30seconds, Automatic Recovery			

INPUT SPECIFICATIONS

Items:	Testing condition	Min	Typ	Max
Input voltage range	5VDC nominal input		4.5-5.5VDC	
	12VDC nominal input		10.8-13.2VDC	
	15VDC nominal input		13.5-16.5VDC	
	24VDC nominal input		21.6-26.4VDC	
Input filter	Ceramic capacitance			

COMMON SPECIFICATIONS

Items		Min	Typ.	Max
Operating temperature range		-25°C		+71°C
Storage temperature range		-55°C		+105°C
Humidity				<90%
Cooling	Free Air Convection			
Isolation voltage (VDC)	Input to Output			3,000
Isolation resistance (ohms)			10 ⁹	
Isolation capacitance (pF)				60
Efficiency (%)	See Product List	58		70

WRFXXXXS/D-1W SERIES DC-DC CONVERTER

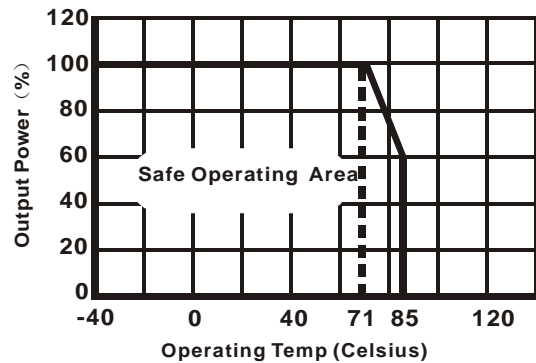
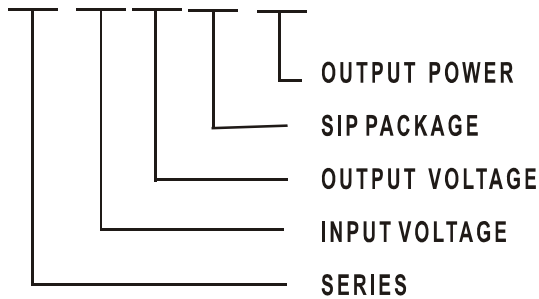
Case material	Non-conductive black plastic
Potting material	Epoxy Resin UL94-V0
Packing material	Tube
Dimension (mm / inch)	SIP:19.60*6.00*10.00 (0.77*0.23*0.39) DIP:20.40*10.0*8.20 (0.80*0.39*0.32)
Weight (g)	10
MTBF (Hrs)	>1,000,000

Part No.	Vin(VDC)	Iin(No-Load) mA	Iin(Full-Load) mA	Vout (VDC)	Iout,Max(mA)	Eff.
WRF0503S-1W	5	22	220	3,3	200	60
WRF0505S-1W	5	28	300	5	200	66
WRF0512S-1W	5	25	312	12	84	64
WRF1205S-1W	12	16	130	5	200	64
WRF1212S-1W	12	22	123	12	84	68
WRF1209S-1W	12	16	123	9	111	68
WRF2405S-1W	24	7	64	5	200	65
WRF2409S-1W	24	10	63	9	111	66
WRF2412S-1W	24	10	63	12	84	66

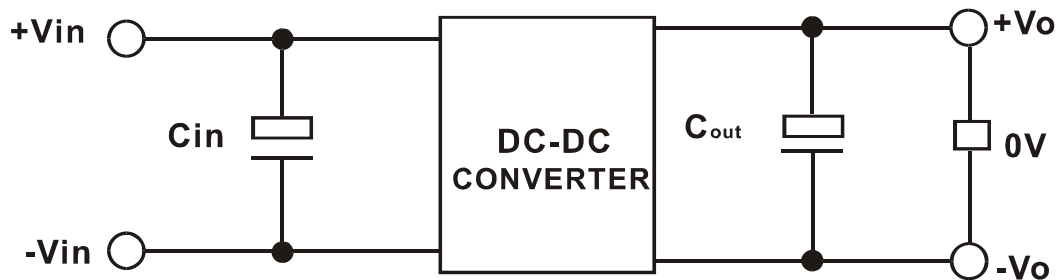
NOMENCLATURE

TEMPERATURE DERATING GRAPH

WRF 05 05 S - 1W



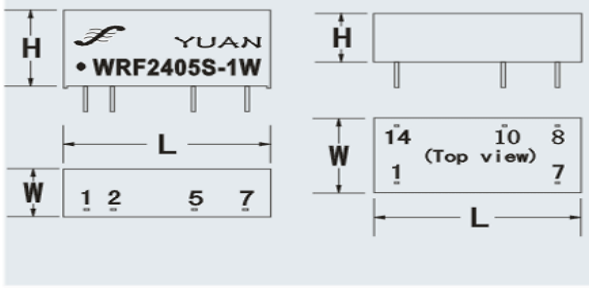
TYPICAL CONNECTION



WRFXXXXS/D-1W SERIES DC-DC CONVERTER

OUTLINE DIMENSION

SIZE	SIP(LxWxH)	DIP(LxWxH)
1W	19.6x6.0x10	20.4x10x6.5
2W	19.6x7.0x10	20.4x10x6.5



PKG	Vin	GND	-Vo	0V	+Vo
FS	1	2	-	5	7
FD	14	1	-	10	8

Note: NC Pin can't be connected to any external circuit.

PINS DESCRIPTION

Pin /SIP	Connection	Pin /DIP
1	V _{in+} Input	14
2	V _{in-} Input	1
5	GND Output	10
7	V _{out+} Output	8
	NC	7