

FEATURES

- 1.5 WATTS REGULATED OUTPUT POWER
- OUTPUT CURRENT UP TO 300mA
- STANDARD 1.25 X 0.80 X 0.40 INCH
- HIGH EFFICIENCY UP TO 55%
- INPUT RANGE FROM 4.5VDC TO 5.5VDC, 10.8VDC TO 13.2VDC, AND 21.6VDC TO 26.4VDC
- FIVE-SIDED EMI SHIELD
- LOW OUTPUT RIPPLE & NOISE
- PI TYPE INPUT FILTER
- 500VDC ISOLATION VOLTAGE
- STANDARD 24 PIN DIP PACKAGE & SMD TYPE PACKAGE
- CE MARK MEETS 2006/95/EC, 93/68/EEC AND 2004/108/EC
- DESIGN MEETS UL60950-1, EN60950-1 AND IEC60950-1
- ISO9001 CERTIFIED MANUFACTURING FACILITIES
- COMPLIANT TO RoHS EU DIRECTIVE 2002/95/EC

APPLICATIONS

Wireless Network
Telecom/Datacom
Industry Control System
Measurement Equipment
Semiconductor Equipment

OPTIONS

SMD TYPE

DESCRIPTION

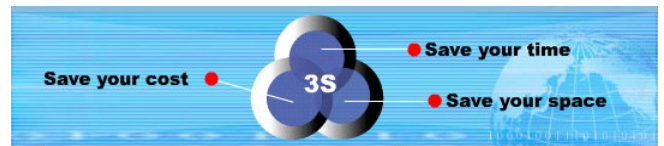
The DR1P5 series offer 1.5 watts of output power from a package in an IC compatible 24 pin DIP configuration without derating to 71°C ambient temperature and pin to pin compatible to MKC03 series. DR1P5 series have input voltage of 4.5~5.5VDC, 10.8~13.2VDC and 21.6~26.4VDC.

TECHNICAL SPECIFICATION

All specifications are typical at nominal input, full load and 25°C otherwise noted

OUTPUT SPECIFICATIONS		
Output power		1.5 Watts, max.
Voltage accuracy		± 4%
Minimum load		0%
Line regulation	LL to HL at Full Load	± 0.3%
Load regulation	25% to 100% FL	D05 output ± 1.5% others ± 0.5%
Cross regulation	Asymmetrical load 25% / 100% FL	± 5%
Ripple and noise	20MHz bandwidth	See table
Temperature coefficient		±0.02% / °C, max.
Short circuit protection (Note 6)		1 Sec.
GENERAL SPECIFICATIONS		
Efficiency		See table
Isolation voltage	Input to Output Input(Output) to Case	500VDC, min. 1minute 500VDC, min. 1minute
Isolation resistance		10 ⁹ ohms, min.
Isolation capacitance		30pF, max.
Switching frequency		20KHz, min.
Design meet safety standard		IEC60950-1, UL60950-1,EN60950-1
Case material		Nickel-coated copper
Base material		Non-conductive black plastic
Potting material		Epoxy (UL94-V0)
Dimensions		1.25 X 0.80 X 0.40 Inch (31.8 X 20.3 X 10.2 mm)
Weight	DIP SMD	16g (0.55oz) 18g (0.62oz)
MTBF (Note 1)	BELLCORE TR-NWT-000332 MIL-HDBK-217F	5.531 x 10 ⁶ hrs 3.827 x 10 ⁶ hrs

INPUT SPECIFICATIONS		
Input voltage range	5VDC nominal input 12VDC nominal input 24VDC nominal input	4.5 ~ 5.5VDC 10.8 ~ 13.2VDC 21.6 ~ 26.4VDC
Input filter		Pi type
ENVIRONMENTAL SPECIFICATIONS		
Operating ambient temperature		-30°C ~ +71°C
Maximum case temperature		+100°C
Storage temperature range		-55°C ~ +105°C
Thermal impedance	Natural convection	20°C/watt
Thermal shock		MIL-STD-810F
Vibration		MIL-STD-810F
Relative humidity		5% to 95% RH
EMC CHARACTERISTICS		
EMI	EN55022	Class A



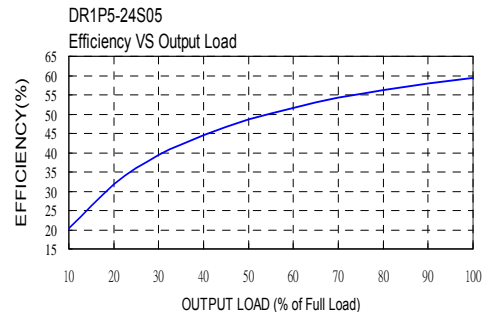
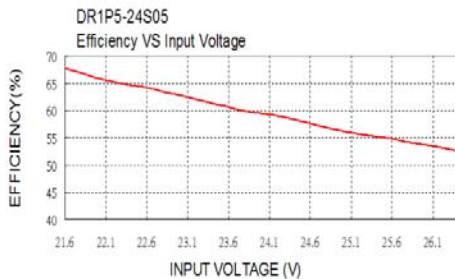
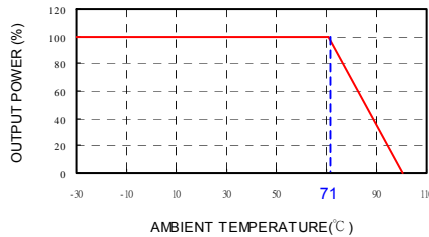


Model Number	Input Range	Output Voltage	Output Current		Output (4) Ripple & Noise	Input Current		Eff (4) (%)	Capacitor Load max ⁽⁵⁾
			Min. load	Full load		No load (3)	Full load (2)		
DR1P5-05S05	4.5 ~ 5.5 VDC	5 VDC	0mA	300mA	50mVp-p	65mA	600mA	54	470μF
DR1P5-05S12	4.5 ~ 5.5 VDC	12 VDC	0mA	125mA	50mVp-p	80mA	625mA	52	330μF
DR1P5-05S15	4.5 ~ 5.5 VDC	15 VDC	0mA	100mA	50mVp-p	95mA	588mA	55	330μF
DR1P5-05D05	4.5 ~ 5.5 VDC	± 5 VDC	0mA	200mA/-100mA	50mVp-p	50mA	682mA	48	330μF
DR1P5-05D12	4.5 ~ 5.5 VDC	± 12 VDC	0mA	± 60mA	50mVp-p	90mA	613mA	51	110μF
DR1P5-05D15	4.5 ~ 5.5 VDC	± 15 VDC	0mA	± 50mA	50mVp-p	100mA	600mA	54	110μF
DR1P5-12S05	10.8 ~ 13.2 VDC	5 VDC	0mA	300mA	50mVp-p	30mA	245mA	55	470μF
DR1P5-12S12	10.8 ~ 13.2 VDC	12 VDC	0mA	125mA	50mVp-p	30mA	260mA	52	330μF
DR1P5-12S15	10.8 ~ 13.2 VDC	15 VDC	0mA	100mA	50mVp-p	40mA	245mA	55	330μF
DR1P5-12D05	10.8 ~ 13.2 VDC	± 5 VDC	0mA	200mA/-100mA	50mVp-p	30mA	278mA	49	330μF
DR1P5-12D12	10.8 ~ 13.2 VDC	± 12 VDC	0mA	± 60mA	50mVp-p	45mA	255mA	51	110μF
DR1P5-12D15	10.8 ~ 13.2 VDC	± 15 VDC	0mA	± 50mA	50mVp-p	40mA	250mA	54	110μF
DR1P5-24S05	21.6 ~ 26.4 VDC	5 VDC	0mA	300mA	50mVp-p	20mA	125mA	54	470μF
DR1P5-24S12	21.6 ~ 26.4 VDC	12 VDC	0mA	125mA	50mVp-p	20mA	130mA	52	330μF
DR1P5-24S15	21.6 ~ 26.4 VDC	15 VDC	0mA	100mA	50mVp-p	20mA	123mA	55	330μF
DR1P5-24D05	21.6 ~ 26.4 VDC	± 5 VDC	0mA	200mA/-100mA	50mVp-p	15mA	142mA	48	330μF
DR1P5-24D12	21.6 ~ 26.4 VDC	± 12 VDC	0mA	± 60mA	50mVp-p	20mA	128mA	51	110μF
DR1P5-24D15	21.6 ~ 26.4 VDC	± 15 VDC	0mA	± 50mA	50mVp-p	20mA	125mA	54	110μF

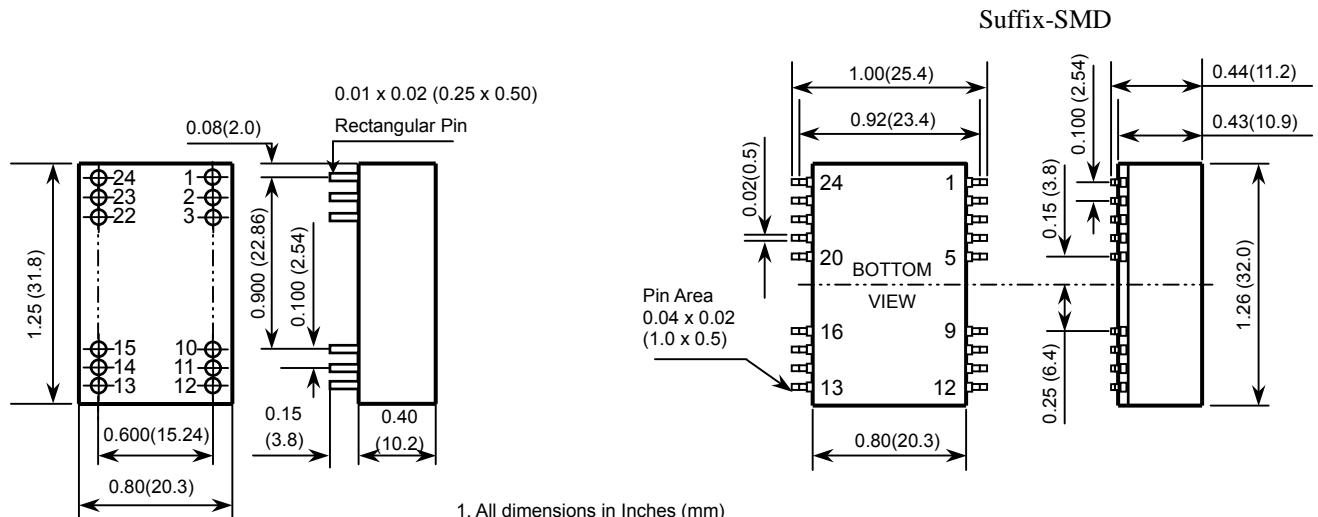
Note

1. BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40°C.
MIL-HDBK-217F Notice2 @Ta=25 °C, Full load(Ground, Benign, controlled environment).
2. Maximum value at nominal input and full load of standard type.
3. Typical value at nominal input and no load.
4. Typical value at nominal input and full load.
5. Test by minimum input and constant resistive load.
6. **CAUTION:** This power module is not internally fused. An input line fuse must always be used.

DR1P5-24S05 Derating Curve



Mechanical Drawing:



1. All dimensions in Inches (mm)
Tolerance: X.XX±0.02 (X.X±0.5)
X.XXX±0.01 (X.XX±0.25)
2. Pin pitch tolerance ±0.01(0.25)
3. Pin dimension tolerance ±0.004 (0.1)

DIP PIN CONNECTION					
PIN	SINGLE	DUAL	PIN	SINGLE	DUAL
1	+ INPUT	+ INPUT	24	+ INPUT	+ INPUT
2	NC	- OUTPUT	23	NC	- OUTPUT
3	NC	COMMON	22	NC	COMMON
10	-OUTPUT	COMMON	15	- OUTPUT	COMMON
11	+OUTPUT	+OUTPUT	14	+OUTPUT	+OUTPUT
12	- INPUT	- INPUT	13	- INPUT	- INPUT

SMD PIN CONNECTION					
PIN	SINGLE	DUAL	PIN	SINGLE	DUAL
1	+ INPUT	+ INPUT	24	+ INPUT	+ INPUT
2	NC	- OUTPUT	23	NC	- OUTPUT
3	NC	COMMON	22	NC	COMMON
10	-OUTPUT	COMMON	15	- OUTPUT	COMMON
11	+OUTPUT	+OUTPUT	14	+OUTPUT	+OUTPUT
12	- INPUT	- INPUT	13	- INPUT	- INPUT
Others	NC	NC	Others	NC	NC