Specifications (measured @ Ta= 25°C, nominal input voltage, full load and after warm-up)

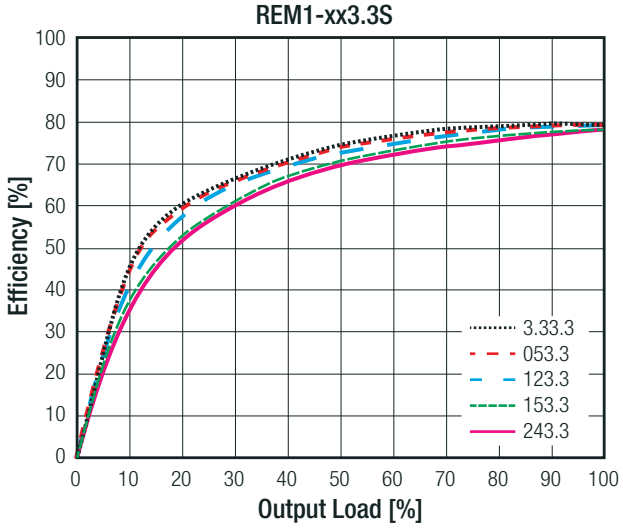
Parameter	Condition	Min.	Typ.	Max.
Internal Operating Frequency			40kHz	
Minimum Load			0%	
Output Ripple and Noise [3]	20MHz BW			75mVp-p

Notes:

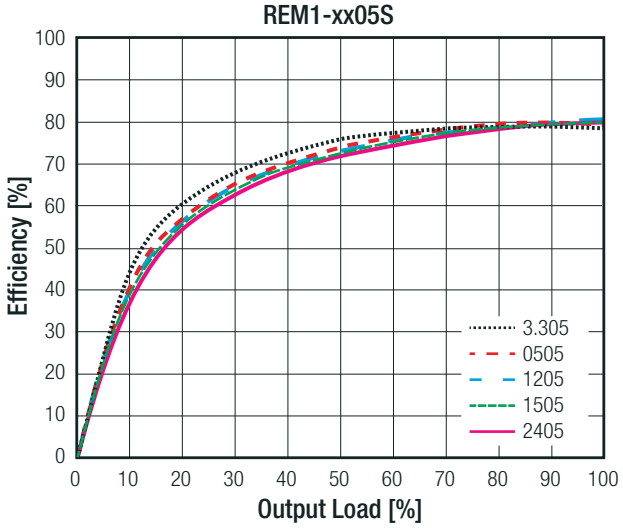
Note3: Measurements are made with a 0.1µF MLCC across output. (low ESR)

Efficiency vs. Load

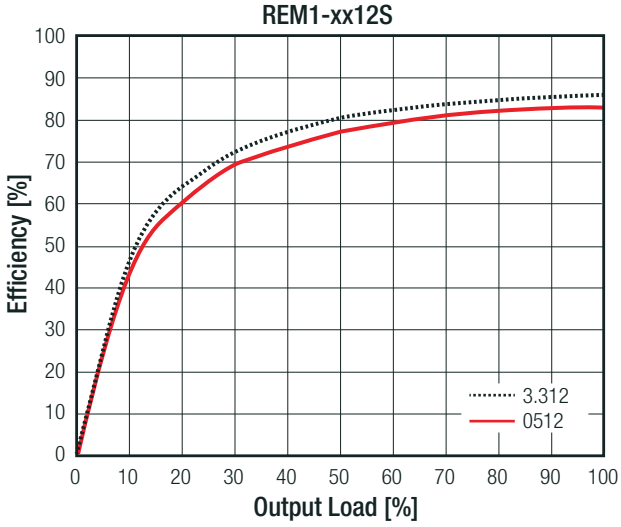
REM1-xx3.3S



REM1-xx05S

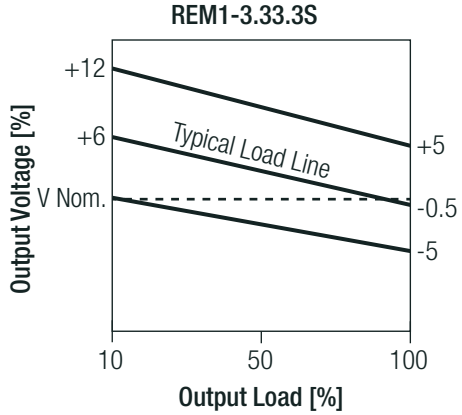


REM1-xx12S

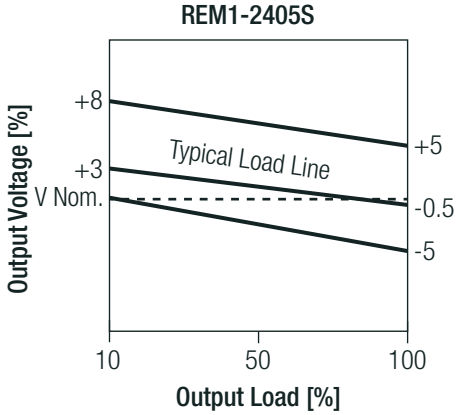


Tolerance Envelope

REM1-3.33.3S



REM1-2405S



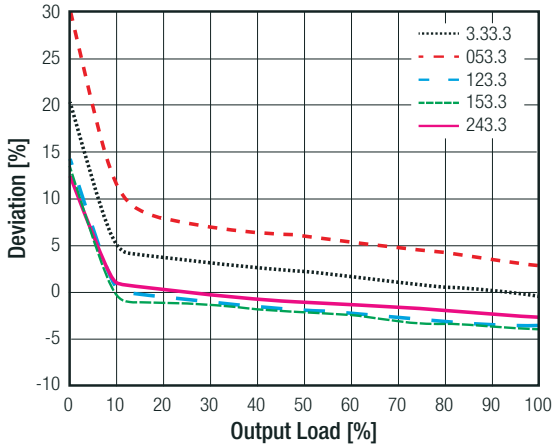
Specifications (measured @ Ta= 25°C, nominal input voltage, full load and after warm-up)

REGULATIONS

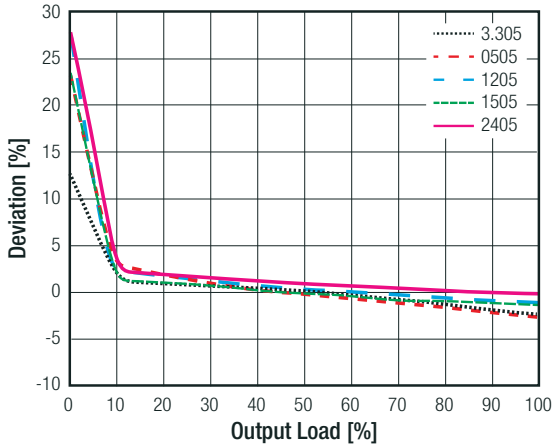
Parameter	Condition		Value
Output Accuracy			±5% max.
Line Regulation	low line to high line, full load		±1.2% typ. @ 1% of Vin
Load Regulation	10% to 100% load	3.3Vout and 5Vout 12Vout	8% typ. / 12% max. 5% typ. / 8% max.

Deviation vs. Load

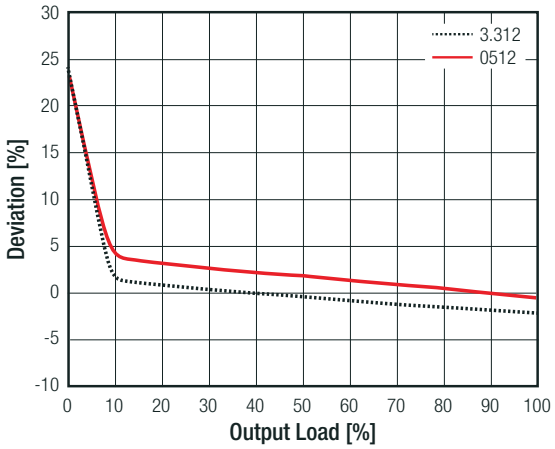
REM1-xx3.3S



REM1-xx05S



REM1-xx12S



PROTECTIONS

Parameter	Type		Value
Isolation Voltage (4)	I/P to O/P	tested for 1 minute	5.2kVDC 4kVAC
Isolation Resistance			10GΩ min.
Isolation Capacitance			25pF typ.
Insulation Grade			reinforced
Means of Protection	250VAC working voltage		2MOPP
Medical Device Classification			built-in power supply
Creepage and Clearance			≥8mm

Notes:

Note4: For repeat Hi-Pot testing, reduce the time and/or the test voltage

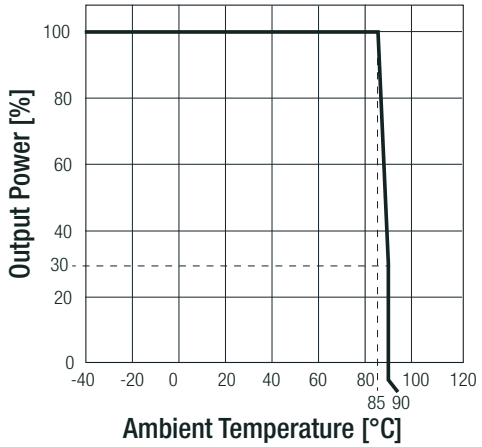
Note5: Refer to local safety regulations if input over-current protection is also required. Recommended fuse: T1A slow blow type

Specifications (measured @ Ta= 25°C, nominal input voltage, full load and after warm-up)

ENVIRONMENTAL

Parameter	Condition		Value
Operating Temperature Range	without derating (see graph)		-40°C °C to +85°C
Maximum Case Temperature			105°C
Temperature Coefficient			0.02%/K typ.
Operating Altitude	according to IEC/EN60601-1 accroding to IEC/EN62368-1		3000m 5000m
Operating Humidity	non-condensing		5% - 95% RH max.
Pollution Degree			PD2
MTBF	according to MIL-HDBK-217F, G.B.	+25°C +85°C	18200 x 10^3 hours 7500 x 10^3 hours
Vibration			according to MIL-STD-202G standard

Derating Graph
(@ chamber and natural convection 0.1m/s)



SAFETY AND CERTIFICATIONS

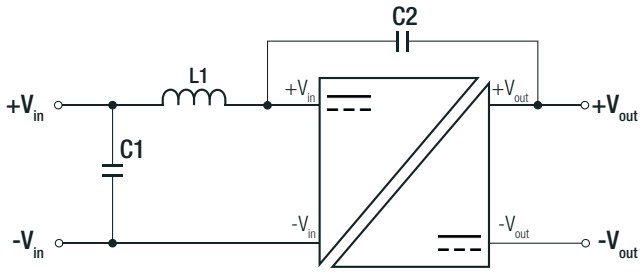
Certificate Type (Safety)	Report / File Number	Standard
Audio/video, information and communication technology equipment. Safety requirements (CB Scheme)	L0339m31-A-L	EN62368-1:2014
Medical Electric Equipment, General Requirements for Saftey and Essential Performance	E314885-D1000-1/A0/C0-UL	ANSI/AAMI ES60601-1:2005/®2012 + A1:2012 + C1:2009/®2012 + A2:2010/®2012 CSA C22.2 No. 60601-1:14, 3rd Edition, 2014
Medical Electric Equipment, General Requirements for Safety and Essential Performance	E314885-D1000-1/A0/C0-CB	IEC60601-1:2005 +AM1:2012 EN60601-1:2006 + A12:2014
EAC	RU-AT.49.09571	TP TC 004/2011 TP TC 004/2011
RoHS2+		RoHS-2011/65/EU + AM-2015/863

EMC Compliance	Condition	Standard / Criterion
Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility		IEC60601-1-2:2014 EN60601-1-2:2015
Industrial, scientific and medical equipment - Radio frequency disturbance characteristics - Limits and methods of measurement	with external filter	EN55011, 2009+A1:2010, Class B
ESD Electrostatic discharge immunity test	Air: ±15kV; Contact: ±8kV	IEC61000-4-2:2008 , Criteria A
Radiated, radio-frequency, electromagnetic field immunity test	3V/m	IEC61000-4-3:2006+A2:2010, Criteria A
Fast Transient and Burst Immunity	DC Port: ±2kV	IEC61000-4-4:2012, Criteria A
Surge Immunity	DC Port: ±1kV	IEC61000-4-5:2014, Criteria B
Immunity to conducted disturbances, induced by radio-frequency fields	DC Port: 6V	IEC61000-4-6:2013, Criteria A
Power Magnetic Field Immunity	50Hz, 30A/m	IEC61000-4-8:2009, Criteria A

continued on next page

Specifications (measured @ Ta= 25°C, nominal input voltage, full load and after warm-up)

EMC Filtering Suggestions according to EN55011



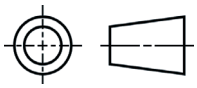
Component List Class B

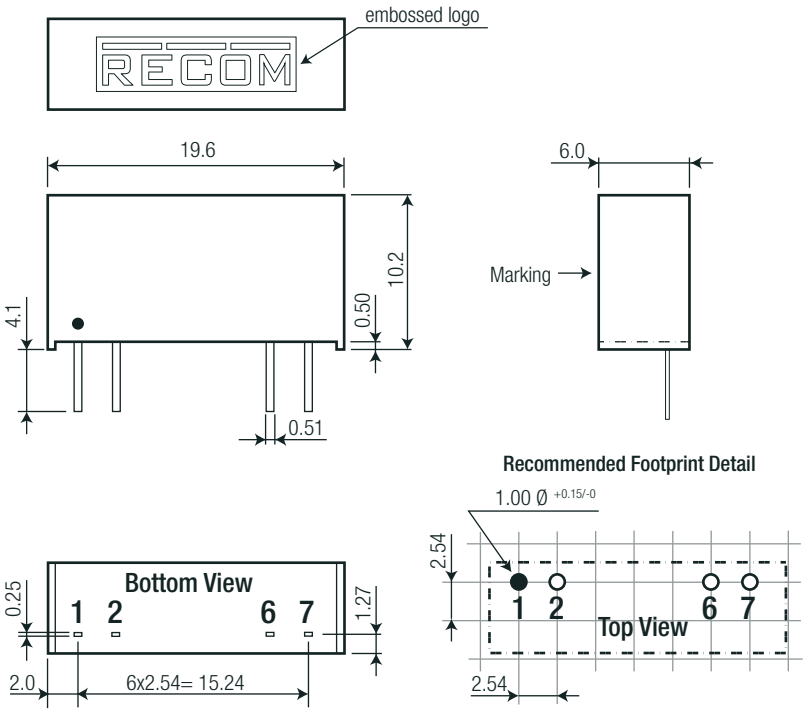
Input Voltage	C1	C2	L1
3.3VDC	4.7µF	470pF/6kVDC	22µH Choke
5VDC			
12VDC			
15VDC			
24VDC	2.2µF		47µH Choke

DIMENSION and PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case potting PCB	black plastic, (UL94 V-0) silicone (UL94 V-0) FR4 (UL94 V-0)
Dimension (LxWxH)		19.6 x 6.0 x 10.2mm
Weight		2.6g typ.

Dimension Drawing (mm)





Pin Connections

Pin #	Single
1	+Vin
2	-Vin
6	-Vout
7	+Vout

Tolerance: xx.x= ±0.5mm
xx.xx= ±0.25mm
Pin dimension: ±0.1mm

PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	tube	520.0 x 16.0 x 9.3mm
Packaging Quantity		25pcs
Storage Temperature Range		-55°C to +125°C
Storage Humidtiy	non-condensing	95% RH max.