Certificate Number: 121621X3-A6038 Date: 2023-06-21

UL CONDITIONS OF ACCEPTABILITY

Company Name: TRACO ELECTRONIC AG

File-CCN: E188913- QQJQ2, QQJQ8

Product Description: POWER SUPPLIES FOR USE WITH AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT - COMPONENT

Models: TRV 2-0510M(a), TRV 2-0511M(a), TRV 2-0512M(a), TRV 2-0513M(a), TRV 2-0521M(a), TRV 2-0522M(a), TRV 2-0523M(a), TRV 2-1210M(a), TRV 2-1211M(a), TRV 2-1212M(a), TRV 2-1213M(a), TRV 2-1221M(a), TRV 2-1222M(a), TRV 2-1223M(a), TRV 2-1510M(a), TRV 2-1511M(a), TRV 2-1512M(a), TRV 2-1513M(a), TRV 2-1521M(a), TRV 2-1522M(a), TRV 2-1523M(a), TRV 2-2410M(a), TRV 2-2411M(a), TRV 2-2412M(a), TRV 2-2413M(a), TRV 2-2421M(a), TRV 2-2422M(a), TRV 2-2423M(a)

Conditions Of Acceptability: For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- The following output circuits are at ES1 energy levels : All output ports
- The following output circuits are at PS1 energy levels : All output ports
- The investigated Pollution Degree is : 2
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class A (105°C) : T1 (Class B)
- The power supply was evaluated to be used at altitudes up to : 5,000 m
- The need for suitable Electrical enclosure (for ES safeguard), fire enclosure (for PS safeguard), mechanical enclosure (for MS safeguard), safeguard for thermal burn injury (for TS safeguard), safeguards against capacitor discharge (for ES safeguard) is to be evaluated and provided(if necessary) when it’s employed in the end-use equipment.
- Tests for Abnormal operating and Single Fault conditions were carried out with an external, time-delay fuse having a current rating 1.0 A for TRV 2-051XM series; 0.5 A for TRV 2-121XM and TRV 2-151XM series; 0.315 A for TRV 2-241XM series, manufacturer by Littelfuse, type 215; Tests should be repeated when it’s employed in the end-use equipment with a differently rated overcurrent protective device.
- The rated input range is 4.5-36 V d.c. for all models. Electric strength tests were done based on manufacturer’s specification, assuming transient voltages is 2500 Vpeak, working voltage is 2500 Vpeak/ 1500 V a.c. and nominal mains voltage is 250 Vrms (Test voltage was 5000 V a.c. for reinforced insulation between input and output, 3000 V a.c. for basic insulation between input/output and enclosure outside with/without potting compound).
- The terminals of this component DC to DC Converter are only suitable for factory wiring only.

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Ratings: All models are similar except for I/O rating, PWB layout, schematic and transformer (T1).

Model Number	Input Volt (VDC)	Input Current (A)	Output Volt (VDC)	Output Current (A)	Output Power (W)	LAYOUT	Transformer No.
TRV 2-0510M(a)	4.5 ~ 7.0	0.564A	3.3	0.600	1.980W	A	X2
TRV 2-0511M(a)	4.5 ~ 7.0	0.549A	5	0.400	2.000W	A	X2
TRV 2-0512M(a)	4.5 ~ 7.0	0.537A	12	0.167	2.004W	A	X4
TRV 2-0513M(a)	4.5 ~ 7.0	0.538A	15	0.134	2.010W	A	X4
TRV 2-0521M(a)	4.5 ~ 7.0	0.542A	±5	±0.200	2.000W	B	X2
TRV 2-0522M(a)	4.5 ~ 7.0	0.533A	±12	±0.083	1.992W	B	X4
TRV 2-0523M(a)	4.5 ~ 7.0	0.551A	±15	±0.067	2.010W	B	X4
TRV 2-1210M(a)	9.6 ~14.4	0.261A	3.3	0.600	1.980W	A	X3
TRV 2-1211M(a)	9.6 ~14.4	0.257A	5	0.400	2.000W	A	X3
TRV 2-1212M(a)	9.6 ~14.4	0.249A	12	0.167	2.004W	A	X1
TRV 2-1213M(a)	9.6 ~14.4	0.252A	15	0.134	2.010W	A	X1
TRV 2-1221M(a)	9.6 ~14.4	0.257A	±5	±0.200	2.000W	B	X3
TRV 2-1222M(a)	9.6 ~14.4	0.250A	±12	±0.083	1.992W	B	X1
TRV 2-1223M(a)	9.6 ~14.4	0.255A	±15	±0.067	2.010W	B	X1
TRV 2-1510M(a)	12.0 ~ 18.0	0.209A	3.3	0.600	1.980W	A	X3
TRV 2-1511M(a)	12.0 ~ 18.0	0.206A	5	0.400	2.000W	A	X3
TRV 2-1512M(a)	12.0 ~ 18.0	0.199A	12	0.167	2.004W	A	X1
TRV 2-1513M(a)	12.0 ~ 18.0	0.202A	15	0.134	2.010W	A	X1
TRV 2-1521M(a)	12.0 ~ 18.0	0.206A	±5	±0.200	2.000W	B	X3
TRV 2-1522M(a)	12.0 ~ 18.0	0.200A	±12	±0.083	1.992W	B	X1
TRV 2-1523M(a)	12.0 ~ 18.0	0.209A	±15	±0.067	2.010W	B	X1
TRV 2-2410M(a)	19.2 ~28.8	0.132A	3.3	0.600	1.980W	A	X3
TRV 2-2411M(a)	19.2 ~28.8	0.130A	5	0.400	2.000W	A	X3
TRV 2-2412M(a)	19.2 ~28.8	0.127A	12	0.167	2.004W	A	X1
TRV 2-2413M(a)	19.2 ~28.8	0.128A	15	0.134	2.010W	A	X1
TRV 2-2421M(a)	19.2 ~28.8	0.129A	±5	±0.200	2.000W	B	X3
TRV 2-2422M(a)	19.2 ~28.8	0.128A	±12	±0.083	1.992W	B	X1
TRV 2-2423M(a)	19.2 ~28.8	0.131A	±15	±0.067	2.010W	B	X1

Nomenclature: (a) - Stands for 6 variables, each variable may be A through Z, 0 through 9, “-”, “(”, “)”, “.”, “/” or blank.