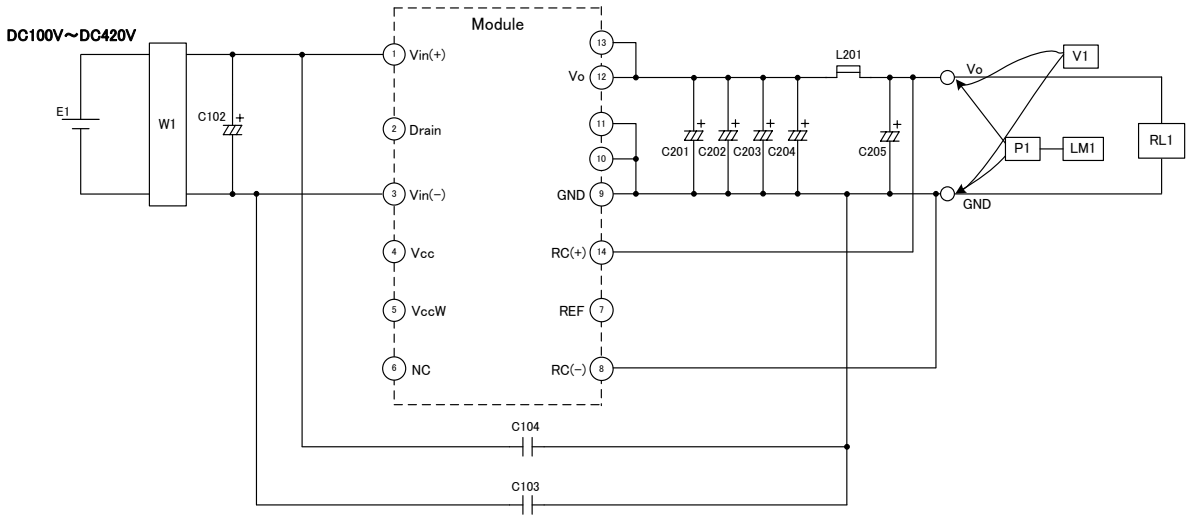
■Input-output condition

Item	Specification	Conditions・Note
Input voltage range	DC100V～420V	Average voltage
Maximum input voltage	420V or less	Including peak value
Input ripple voltage lower limit	75V or more	Ripple voltage of the AC input rectified
Rated input voltage	DC140V, DC340V	
Rated output voltage	5V	
Rated load current	8A	

■Electrical specification Ta=25℃

Item	Specification	Conditions・Note
Efficiency	85% or more (87% TYP)	Rated input voltage Rated output current
Output voltage tolerance	±5%	
Line regulation	50mV or less	Input voltage DC100V～420V
Load regulation	100mV or less	Output current 0～8A
No-load power	50mW or less (25mW TYP)	Rated input voltage
Ripple	60mVp-p or less	Rated input voltage Rated output current
Ripple noise	100mVp-p or less	

Measurement circuit



E1 : DC power supply
W1 : Wattmeter WT210 (YOKOGAWA)
RL1 : Electronic load
V1 : Voltmeter Class 0.5
P1 : Differential probe DP-100(KG)
LM1 : Ripple noize meter RM-103(KG)

C102 : 450BXW100M (RUBYCON)
C103 : CD75-B2GA331K (TDK)
C104 : CD75-B2GA331K (TDK)
C201 : 10ZLG2200M (RUBYCON)
C202 : 10ZLG2200M (RUBYCON)
C203 : 10ZLG2200M (RUBYCON)
C204 : 10ZLG2200M (RUBYCON)
C205 : 10ZLG1000M (RUBYCON)
L201 : PC8Z-1R0N (KORIN)

■Protection

Item	Specification	Conditions・Note
Overcurrent protection	8A or more	Auto recovery
Overvoltage protection	5.75～7.5V	Latch off
Overheat protection		Latch off

■Insulation

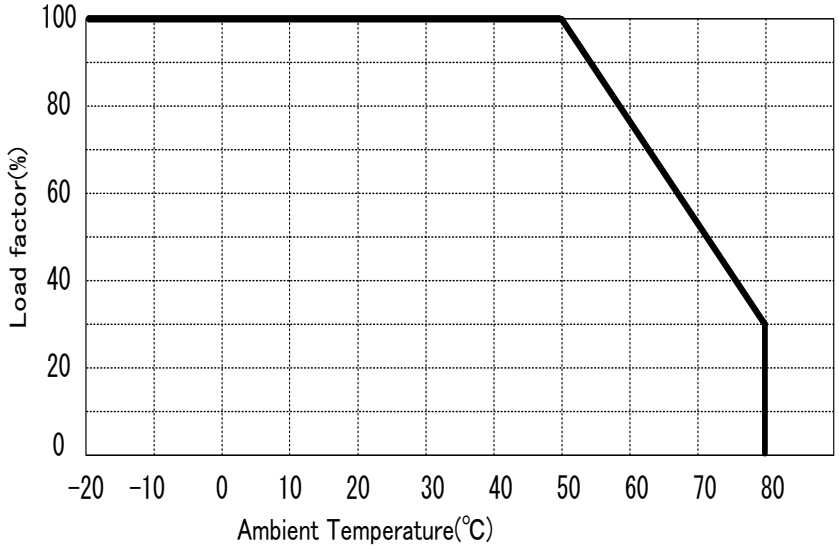
Item	Specification	Conditions・Note
Insulation voltage (Between Pri－Sec)	3.0kV (or 3.6kV)	AC 1min (or AC 2sec) Cutoff 2mA
Insulation resistance (Between Pri－Sec)	100MΩ or more	DC500V

■Environmental conditions

Item	Specification	Conditions・Note
Operating temperature	-20℃～80℃	Refer to the Ambient temperature derating curve
Operating humidity	20～95%RH (No condensation)	
Storage temperature	-25℃～85℃	
Storage humidity	5～95%RH (No condensation)	

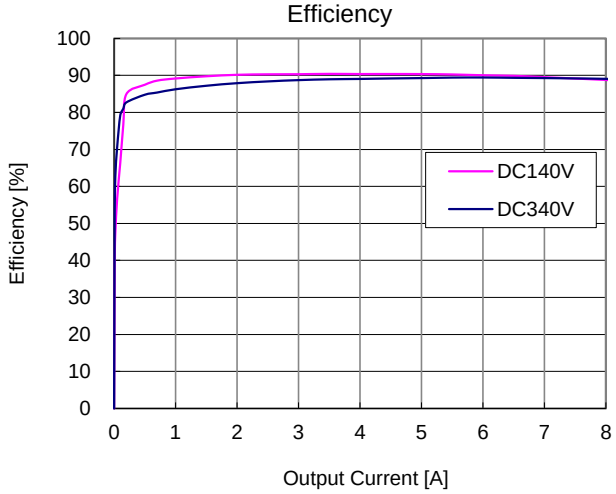
■Ambient temperature derating curve

Reduce the load current according to the following temperature derating table.

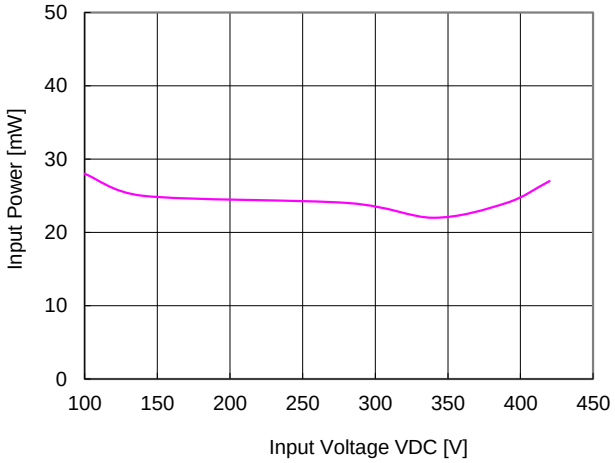


■Typical characteristics Ta=25℃

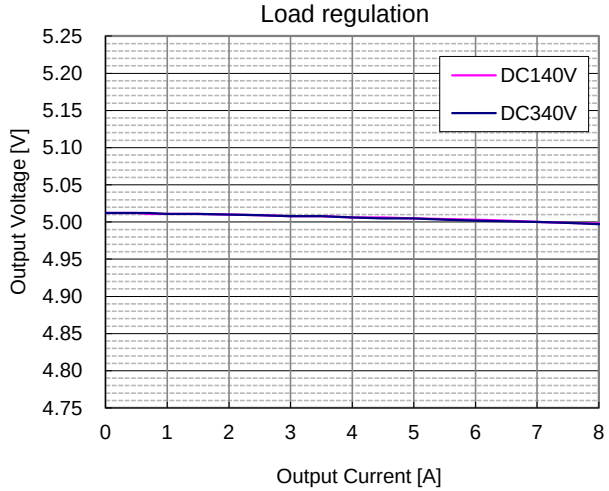
Efficiency



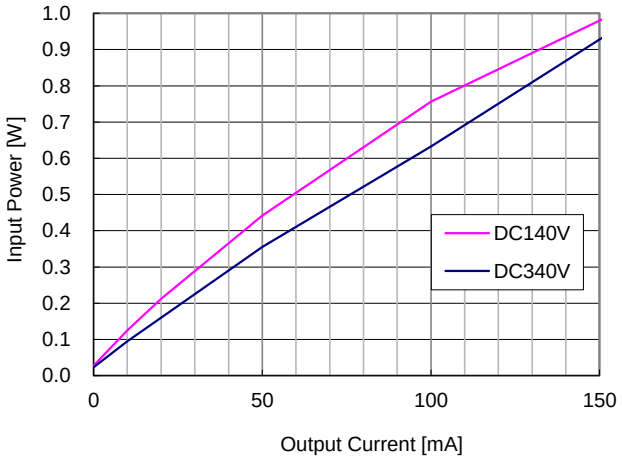
Input power (at no load)



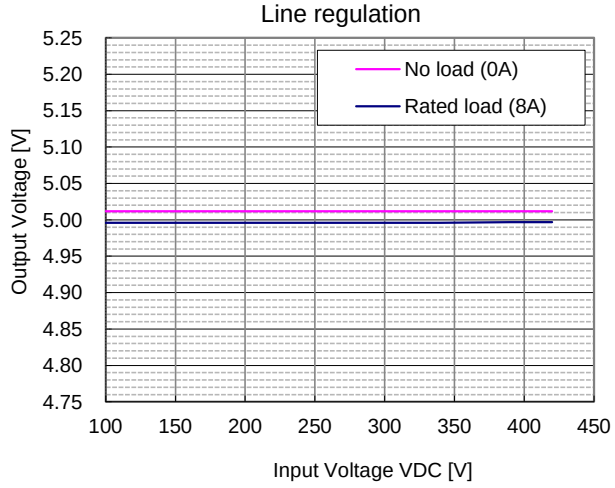
Load regulation



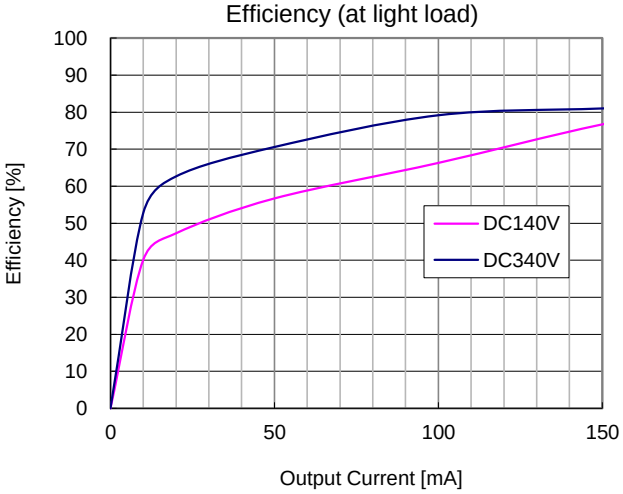
Input power (at light load)



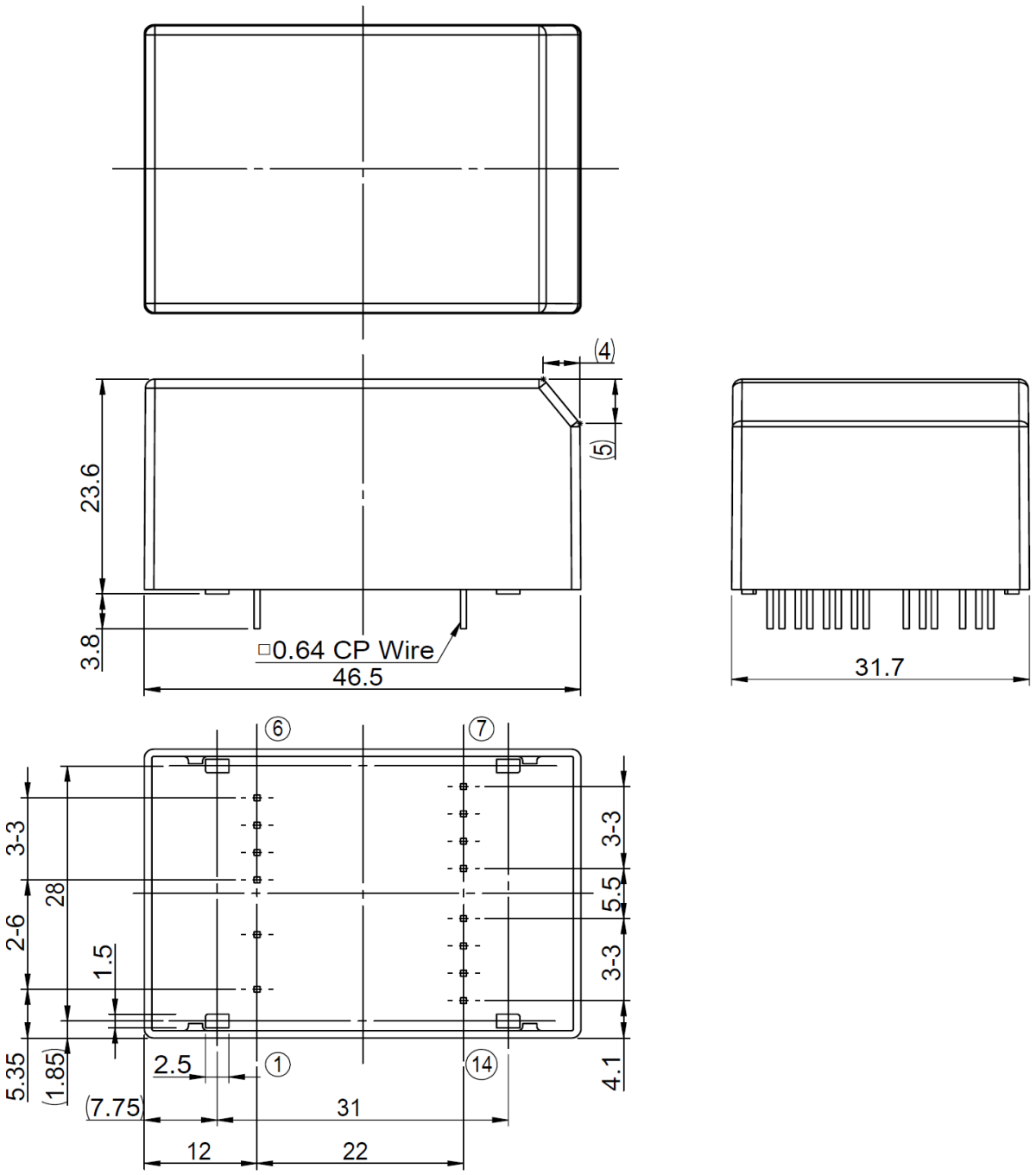
Line regulation



Efficiency (at light load)



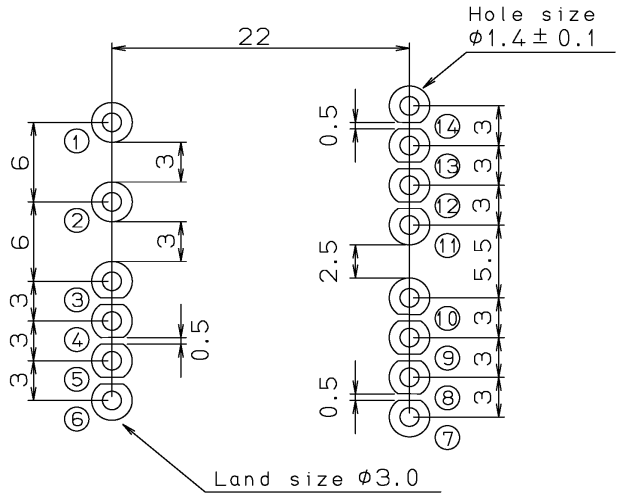
■Outline dimensional drawing



Note :1.The dimensional tolerance without directions is ± 0.5mm.

Unit : mm

■Recommended hole diameter and land size



※The round pulling out figure is a pin numbering.

Unit : mm

■Terminal function and connection

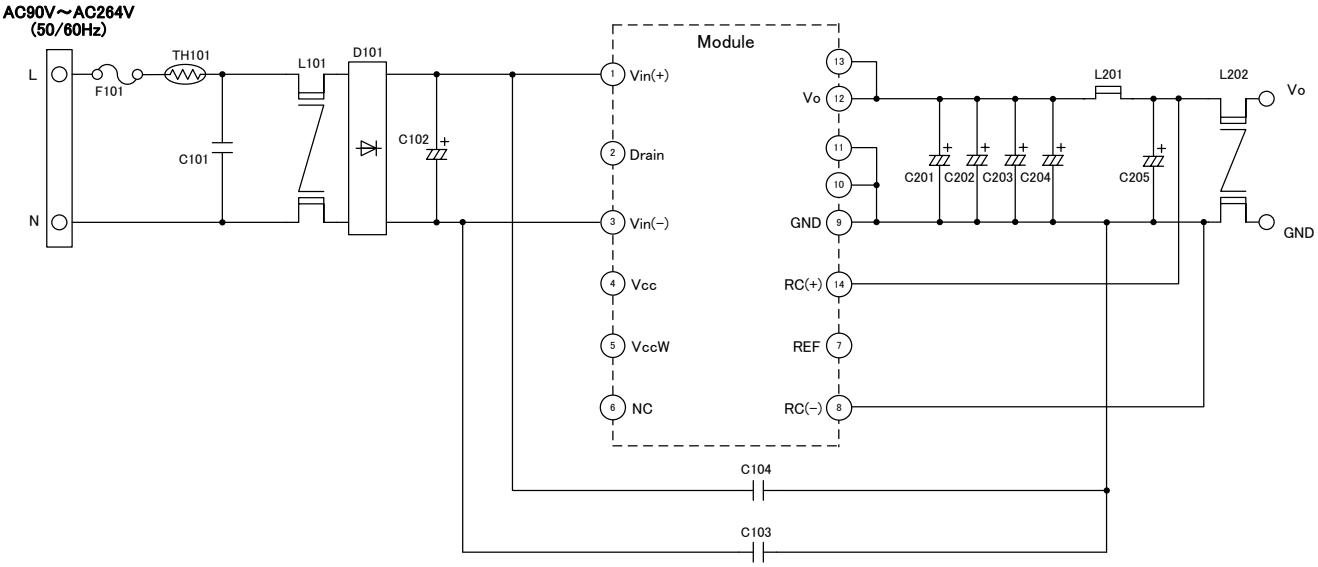
Primaries

Pin No.	Name	Explanation of terminals
1	Vin(+)	DC voltage input terminal (+)
2	Drain	Terminal for noise adjustment
3	Vin(-)	DC voltage input terminal (-)
4	Vcc	Terminal for start-up time adjustment
5	VccW	Auxiliary winding terminal ※Don't connect with other circuits.
6	N.C.	Unused terminal ※Don't connect with other circuits.

Secondaries

Pin No.	Name	Explanation of terminals
7	REF	Output voltage adjustment terminal
8	RC(-)	Output voltage detection terminal (-)
9	GND	Output terminal (-)
10	GND	Output terminal (-)
11	GND	Output terminal (-)
12	Vo	Output1 terminal (+)
13	Vo	Output1 terminal (+)
14	RC(+)	Output voltage detection terminal (+)

■Application circuit example



Symbol	Description	Part No.	Manufacturer
D101	Diode	D2SB60A	SHINDENGEN
L101	Inductor	HL-24R-E100THA	KORIN
L201	Inductor	PC8Z-1R0N	KORIN
L202	Inductor	TC-8070-00	KORIN
C101	Capacitor	LE104-MX	OKAYA
C102	Capacitor	400BXW100M	RUBYCON
C103	Capacitor	CD75-B2GA331K	TDK
C104	Capacitor	CD75-B2GA331K	TDK
C201	Capacitor	10ZLG2200M	RUBYCON
C202	Capacitor	10ZLG2200M	RUBYCON
C203	Capacitor	10ZLG2200M	RUBYCON
C204	Capacitor	10ZLG2200M	RUBYCON
C205	Capacitor	10ZLG1000M	RUBYCON
F101	Fuse	FIH 250V 2.0A	NIPPON-SEISEN
TH101	Thermistor	SCK102R55AMIAY499	THINKING

※Mount the fuse on the input Live side to ensure safety without fail.
Recommended parts：FIH 250V 2.0A～3.15A / NIPPON-SEISEN

※Depend on the applying safety standard, please add the discharge resistance in paralell with C101.

■Usage cautions

● Always mount fuse on the Live side of input for ensuring safety because the fuse is not built-in the product.
Please select the fuse considering conditions such as steady current, inrush current, and ambient temperature.
※Recommended parts: FIH 250V 2.0A～3.15A / NIPPON-SEISEN
When using a fuse having large rated current or high capacity input electrolytic condenser, by combining another converter and input line and input electrolytic condenser, fuse may not blow off in the case of abnormality.
Do not combine high voltage line and fuse.

● Examples of circuit and part constants listed in this specifications document are provided as reference for checking the characteristics.
Please design, verify and arrive at a decision at your responsibility after taking various conditions into account.

● Tamura Corporation constantly strives to improve quality and reliability, but functional faults and failures are bound to occur with some probability in power products.
To ensure that failures do not cause accidents resulting in injury or death, fire accidents,social damage, and so on, users are to thoroughly verify the safety of their designs in devices and/or systems.

● This product is intended for use in consumer electronics (electric home appliances, business equipment, information equipment, communication terminal equipment, measuring devices, and so on.)
If considering use of this product in equipment or devices that require high reliability (medical devices, transportation equipment, traffic signal control equipment, fire and crime prevention equipment, aeronautics and space devices, nuclear power control, fuel control, in-vehicle equipment, safety devices, and so on), please consult a Tamura sales representative in advance. Do not use this product for such applications without written permission from Tamura Corporation.

● This product is intended for use in environments where consumer electronics are commonly used.
It is not designed for use in special environments such as listed below, and if such use is considered, the user is to perform thorough safety and reliability checks under his/her responsibility.
- Use in liquids such as water, oil, chemical solutions, or organic solvents, and use in locations where the product will be exposed to such liquids.
- Use that involves exposure to direct sunlight, outdoor exposure, or dusty conditions.
- Use in locations where corrosive gases such as salt air, C12, H2S, NH3, SO2, or NO2, are present.
- Use in environments with strong static electricity or electromagnetic radiation.
- Use that involves placing inflammable material next to the product.
- Use of this product either sealed with a resin filling or coated with resin.
- Use of water or a water soluble detergent for flux cleaning.
- Use in locations where condensation is liable to occur.

● This product is not designed to resist radiation.

● This product is not designed to be connected in series or parallel.
Do not operate this product in a series, parallel, or N+1 redundant configuration.