

阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

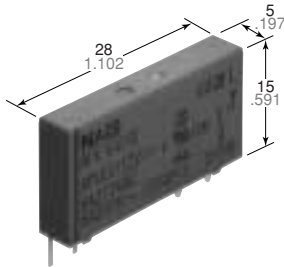
Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

Panasonic
ideas for life

THE SLIM POWER RELAY

PE RELAYS
(APE)



FEATURES

- **Slim size**
28 mm (L)×5 mm (W)×15 mm (H)
1.102 inch (L)×.197 inch (W)×.591 inch (H)
permits high density mounting
- **Wide switching capacity:**
100 mA/12 V DC-6A/250 V AC
- **High sensitivity: 170mW**
- **High breakdown (4,000 V) and surge (6,000 V) voltage between contacts and coil**
- **Clearance/creepage distance:**
8/8 mm
- **1 Form A/1 Form C contact.**

Insulation complying to following standards:
 EN 60255 General specification for electrical relays
 EN 60335 For use in house-hold appliances
 EN 60730 For use in temperature sensing appliances
 EN 60950 For use in electrical business equipment
 EN 60065 For use in entertainment electronics (radio, HiFi-sets)
 EN 50178 For use in industrial range

SPECIFICATIONS

Contacts

Arrangement	1 Form A, 1 Form C	
Contact material	Silver alloy	Au-plated silver alloy
Initial contact resistance, max. (By voltage drop 6 V DC 1 A)	100 mΩ	30 mΩ
Rating (resistive)	Nominal switching capacity	6 A 250 V AC
	Maximum switching power	1,500 VA
	Maximum switching voltage	250V AC
	Max. switching current	6 A (AC)
	Min. switching capacity ^{#1}	100 mA, 5 V DC
Expected life (min. operations)	Mechanical (at 180 cpm)	5×10 ⁶
	Electrical (at 6 cpm) (at rated load)	N.O.: 5×10 ⁴ N.C.: 3×10 ⁴

Coil (at 25°C 77°F, 50% R.H.)

Nominal operating power	170 mW (4.5 to 24 V DC) 217 mW (48 V DC)
-------------------------	---

^{#1} This value can change due to the switching frequency, environmental conditions, and desired reliability level, therefore it is recommended to check this with the actual load.

Remarks

- * Specifications will vary with foreign standards certification ratings.
- *¹ Measurement at same location as "Initial breakdown voltage" section
- *² Detection current: 10mA
- *³ Wave is standard shock voltage of ±1.2×50μs according to JEC-212-1981
- *⁴ Excluding contact bounce time
- *⁵ Half-wave pulse of sine wave: 50ms; detection time: 10μs
- *⁶ Half-wave pulse of sine wave: 11ms
- *⁷ Detection time: 10μs
- *⁸ Refer to 6. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT

Characteristics

Initial insulation resistance* ¹	Min. 1,000 MΩ at 500 V DC	
Initial breakdown voltage* ²	Between open contacts	1,000 Vrms
	Between contacts and coil	4,000 Vrms
Surge voltage between contacts and coil* ³	Min. 6,000 V (Initial)	
Operate time* ⁴ (at nominal voltage)	Max. 8 ms (approx. 5 ms)	
Release time (without diode)* ⁴ (at nominal voltage)	Max. 4 ms (approx. 2.5 ms)	
Temperature rise	Max. 30°C with nominal coil voltage across coil and at nominal switching capacity	
Shock resistance	Functional* ⁵	1 Form C: Min. 49 m/s ² {5 G} 1 Form A: Min. 98 m/s ² {10 G}
	Destructive* ⁶	Min. 980 m/s ² {100 G}
Vibration resistance	Functional* ⁷	10 to 55 Hz at double amplitude of 1.0 mm/6 G
	Destructive	10 to 55 Hz at double amplitude of 1.5 mm/9 G
Conditions for operation, transport and storage* ⁸ (Not freezing and condensing at low temperature)	Ambient temp.	-40°C to +85°C -40°F to +185°F
	Humidity	5 to 85%R.H.
Unit weight	Approx. 4 g .14 oz	

TYPICAL APPLICATIONS

- Interface relays for programmable controllers
- Output relays for measuring equipment, timers, counters and temperature controllers
- Industrial equipment, office equipment
- House-hold appliances for Europe

ORDERING INFORMATION

Ex. APE 0

Contact arrangement	Contact type	Contact material	Coil voltage (DC)
1: 1 Form A 3: 1 Form C	0: Single contact	0: Silver alloy 1: Au-plated silver alloy	4H: 4.5 V 18: 18 V 06: 6 V 24: 24 V 12: 12 V 48: 48 V

(Notes) 1. Standard packing: Tube: 20 pcs.; Case: 1,000 pcs.
2. 5 V, 60 V type is also available.

PE (APE)

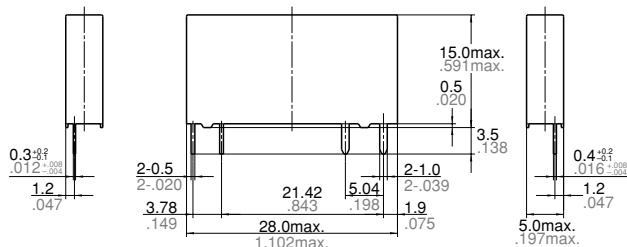
TYPES AND COIL DATA (at 20°C 68°F)

Part No.	Contact arrangement	Nominal voltage, V DC	Pick-up voltage, (Initial) V DC (max.)	Drop-out voltage, (Initial) V DC (min.)	Nominal operating current, mA (±10%)	Nominal operating power, mW	Coil resistance, Ω (±10%)	Max. allowable voltage, V DC
APE1004H	1 Form A (without Au-plated)	4.5	2.97	0.225	38	170	119	5.4
APE10006		6	3.96	0.3	28		212	7.2
APE10012		12	7.92	0.6	14		847	14.4
APE10018		18	11.88	0.9	9		1,906	21.6
APE10024		24	15.84	1.2	7		3,388	28.8
APE10048		48	31.68	2.4	5		10,618	57.6
APE1014H	1 Form A (with Au-plated)	4.5	2.97	0.225	38	170	119	5.4
APE10106		6	3.96	0.3	28		212	7.2
APE10112		12	7.92	0.6	14		847	14.4
APE10118		18	11.88	0.9	9		1,906	21.6
APE10124		24	15.84	1.2	7		3,388	28.8
APE10148		48	31.68	2.4	5		10,618	57.6
APE3004H	1 Form C (without Au-plated)	4.5	2.97	0.225	38	170	119	5.4
APE30006		6	3.96	0.3	28		212	7.2
APE30012		12	7.92	0.6	14		847	14.4
APE30018		18	11.88	0.9	9		1,906	21.6
APE30024		24	15.84	1.2	7		3,388	28.8
APE30048		48	31.68	2.4	5		10,618	57.6
APE3014H	1 Form C (with Au-plated)	4.5	2.97	0.225	38	170	119	5.4
APE30106		6	3.96	0.3	28		212	7.2
APE30112		12	7.92	0.6	14		847	14.4
APE30118		18	11.88	0.9	9		1,906	21.6
APE30124		24	15.84	1.2	7		3,388	28.8
APE30148		48	31.68	2.4	5		10,618	57.6

DIMENSIONS

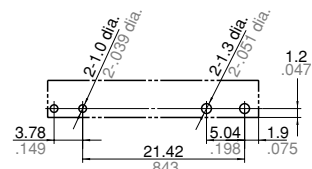
mm inch

1. 1 Form A type



General tolerance: ±0.3 ±0.12

PC board pattern (Bottom view)

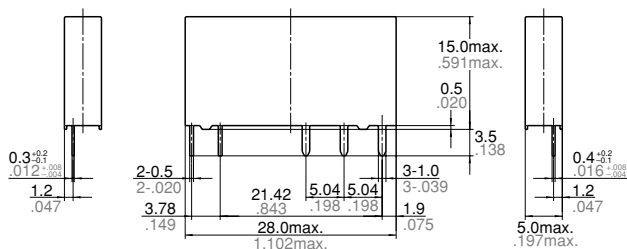


Tolerance: ±0.1 ±0.04

Schematic (Bottom view)

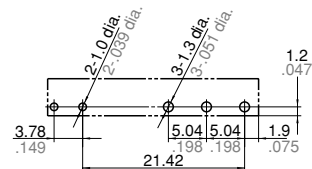


2. 1 Form C type



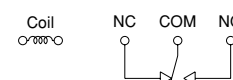
General tolerance: ±0.3 ±0.12

PC board pattern (Bottom view)



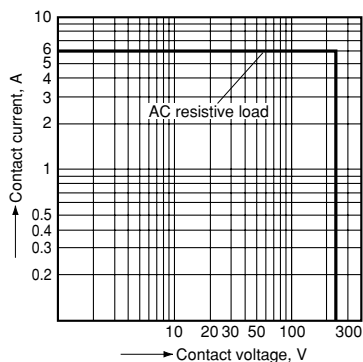
Tolerance: ±0.1 ±0.04

Schematic (Bottom view)



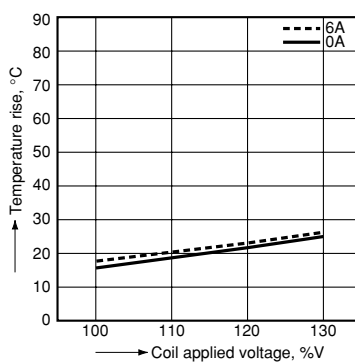
REFERENCE DATA

1. Max. switching capacity



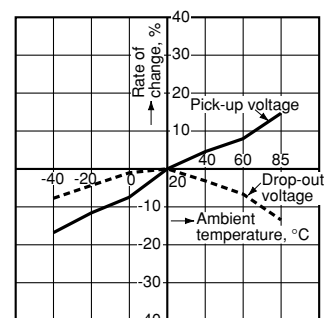
2. Coil temperature rise

Sample: APE30012
 Measured portion: Inside the coil
 Ambient temperature: 28°C 82°F



3. Ambient temperature characteristics

Sample: APE30012
 No. of samples: n = 6



NOTES

Rating

Standard	File No.	Rating
UL	E43149	6 A 277 V AC
VDE	122402ÜG	6 A 250 V AC ($\cos\phi = 1$) 1 A 250 V AC ($\cos\phi = 0.4$)
SEV	CH-99.1 10483.2A1	6 A 250 V AC ($\cos\phi = 1$)

For Cautions for Use, see Relay Technical Information