

2. Specifications

Characteristics	Item	Specifications	
Contact	Contact material	AgSnO ₂ type	
	Arrangement	1 Form A	
	Contact resistance (Initial)	Max. 100 mΩ (By voltage drop 6 V DC 1A)	
Rating	Nominal switching capacity (resistive load)	16A 277V AC	
	Max. switching power (resistive load)	4,432VA	
	Max. switching voltage	277V AC	
	Max. switching current	16A	
	Nominal operating power	400mW (Standard type), 200mW (High sensitive type)	
	Min. switching capacity (reference value)**	100mA, 5V DC	
Electrical characteristics	Insulation resistance (Initial)	Min. 1,000MΩ (at 500V DC) Measurement at same location as "Breakdown voltage" section.	
	Breakdown voltage (Initial)	Between open contacts	1,000 Vrms for 1 min. (Detection current: 10 mA)
		Between contact and coil	4,000 Vrms for 1 min. (Detection current: 10 mA)
	Temperature rise (coil)	Max. 55°C 131°F, Max. 45°C 113°F (200mW type) (By resistive method, nominal coil voltage applied to the coil; contact carrying current: 16A, at 20°C 68°F)	
	Surge breakdown voltage*2 (Between contact and coil) (Initial)	10,000 V	
	Operate time (at nominal voltage) (at 20°C 68°F)	Max. 20 ms (excluding contact bounce time.)	
	Release time (at nominal voltage) (at 20°C 68°F)	Max. 20 ms, Max. 25 ms (200mW type) (excluding contact bounce time) (With diode)	
Mechanical characteristics	Shock resistance	Functional	200 m/s ² (Half-wave pulse of sine wave: 11 ms; detection time: 10μs.)
		Destructive	1,000 m/s ² (Half-wave pulse of sine wave: 6 ms.)
	Vibration resistance	Functional	10 to 55 Hz at double amplitude of 1.5 mm (Detection time: 10μs.)
		Destructive	10 to 55 Hz at double amplitude of 1.5 mm
Expected life	Mechanical (at 180 times/min.)	Min. 2×10 ⁶	
	Electrical (at 20 times/min.)	Min. 10 ⁵ (at resistive load)	
Conditions	Conditions for operation, transport and storage*3	Ambient temperature: -40°C to +85°C -40°F to +185°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature)	
	Max. operating speed	20 times/min. (at nominal switching capacity)	
Unit weight		Approx. 17 g .60 oz, Approx. 15 g .53 oz (PCB type)	

* Specifications will vary with foreign standards certification ratings.

Notes:

*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.

*2. Wave is standard shock voltage of $\pm 1.2 \times 50\mu\text{s}$ according to JEC-212-1981

*3. The upper limit of the ambient temperature is the maximum temperature that can satisfy the coil temperature rise value. Refer to "6. Usage, Storage and Transport Conditions" in [AMBIENT ENVIRONMENT](#) section in [Relay Technical Information](#).

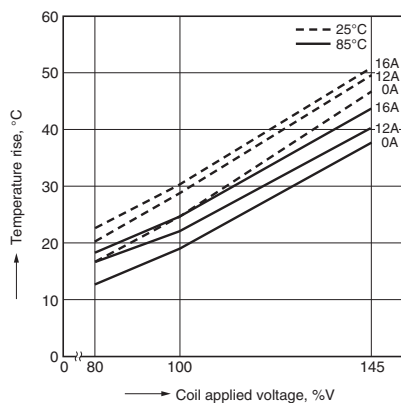
REFERENCE DATA

1-1. Coil temperature rise (400mW type)

Sample: ALE14B12, 6 pcs.

Point measured: coil inside

Ambient temperature: 25°C 77°F, 85°C 185°F

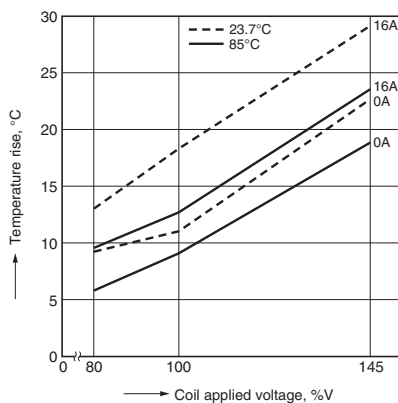


1-2. Coil temperature rise (200mW type)

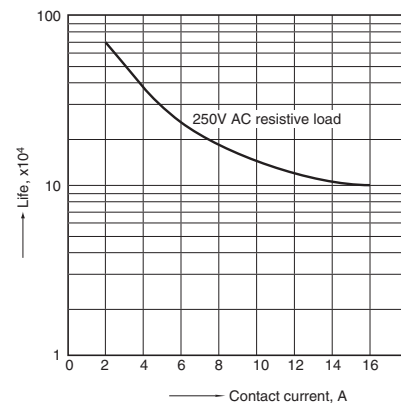
Sample: ALE74B12, 6 pcs.

Point measured: coil inside

Ambient temperature: 23.7°C 74.66°F, 85°C 185°F



2. Life curve



LE (ALE)

3. Electrical life test (16 A 277 V AC, resistive load)

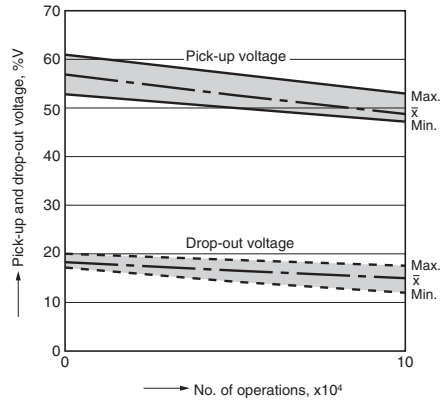
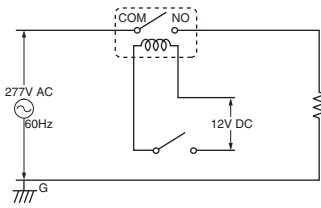
Sample: ALE14B12, 6 pcs.

Operation frequency: 20 times/min.

(ON/OFF = 1.5s: 1.5s)

Ambient temperature: Room temperature

Circuit:



DIMENSIONS (mm inch)

Download [CAD Data](#) from our Web site.

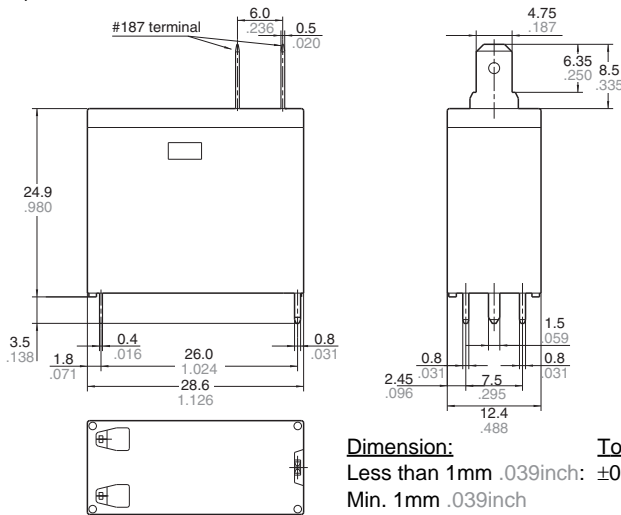
1. TMP type

PCB side three terminals
(includes one dummy terminal)

[CAD Data](#)

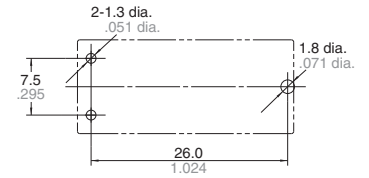


External dimensions



Dimension:	Tolerance
Less than 1mm .039inch:	$\pm 0.1 \pm .004$
Min. 1mm .039inch	
less than 3mm .118 inch:	$\pm 0.2 \pm .008$
Min. 3mm .118 inch:	$\pm 0.3 \pm .012$

PC board pattern (Bottom view)



Tolerance: $\pm 0.1 \pm .004$

Schematic (Bottom view)

