Tyco Electronics

EK Series

16A Miniature, Power PC Board Relay

RoHS Compliant

Applications : Air Conditioners, Microwave Oven

cULus File No. E82292

File No. R 50131044

Users should thoroughly review the technical data before selecting a product part number. It is recommended that user also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

■ Features

- 1 pole 16A, 1 NO contact.
- Low height 20.1mm. (28.9mm with quick connect terminal)
- Ambient temperature 85℃ (100Kops at 16A/250VAC).
- #187 quick connect terminal or PC board terminal type available.
- Meet 5,000VAC dielectric voltage between coil and contacts.
- RoHS compliant (Directive 2002/95/EC).
- UL coil insulation system Class155(F).

■ Contact Ratings @ 23℃

Contact Ratings	Max. Switching Power	Max. Switching Voltage	Max. Switching Current
16A, 250VAC, resistive	4,432VA	250VAC	16A

■ Coil Ratings @ 23℃

Rated Voltage	Must Operate Voltage	Must Release Voltage	Limiting Voltage	Rated Coil Power (Approx.)
5 - 48 VDC	75% max. of rated voltage	5% min. of rated voltage	130% of rated voltage	500mW

Coil Data				
Rated Coil Voltage (VDC)	Rated Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
5	100.0	50	3.75	0.25
6	83.3	72	4.50	0.30
9	55.6	162	6.75	0.45
12	41.7	288	9.0	0.60
18	27.8	648	13.5	0.90
24	20.8	1,152	18.0	1.20
48	10.4	4,608	36.0	2.40

■ Specification

Item		Specifications
Contact	Arrangements	1a (1 Form A)
	Material	AgSnO
	Minimum Load	100mA, 5VDC (reference data)
	Initial Contact Resistance	100m Ω @1A 6VDC
Mounting		PC Board
Enclosure		Flux Proof (RTII)
Operate Time		10ms max. (excluding: Bounce Time)
Release Time		5ms max. (excluding: Bounce Time)
Insulation	Initial Insulation Resistance Between Mutually Insulated Elements :	1,000M ohms min. @500VDC
	Initial Dielectric Strength Between Open Contacts : Between Coil and Contacts :	 1,000VAC 50/60Hz (1 min) 5,000VAC 50/60Hz (1 min)
	Clearance/Creepage Between coil and contacts :	 min. 5.2mm/6.7mm
	Surge Voltage Between Coil and Contacts :	 10,000V (1.2/50 μ s)
	Tracking Index of Relay Base	PTI 250
	Insulation to IEC 60664-1 - Type of Insulation Between Coil and Contacts : Between Open Contacts : - Rated Insulation Voltage - Pollution Degree - Rated Voltage System - Overvoltage Category	 basic basic 250V 2 230/400V II
Endurance	Mechanical	10 million ops (@ no load, 300 ops. per min.)
	Electrical	100,000 ops. (@ 16A 250VAC, resistive, 85℃ , 10 ops. per min.)
Vibration Resistance Function : Destruction :		 10 ～ 50Hz., 1.5mm double amplitude 10 ～ 50Hz., 1.5mm double amplitude
Shock Resistance Function : Destruction :		 980m/s^2 (Half-sine wave of 6ms) 98m/s^2 (Half-sine wave of 11ms, permitted duration 1ms)
Ambient Temperature Range		-40℃～ + 85℃ (with no icing or condensation)
Operating Humidity		20 ～ 85%RH (with no condensation)
Weight		Approx. 13g

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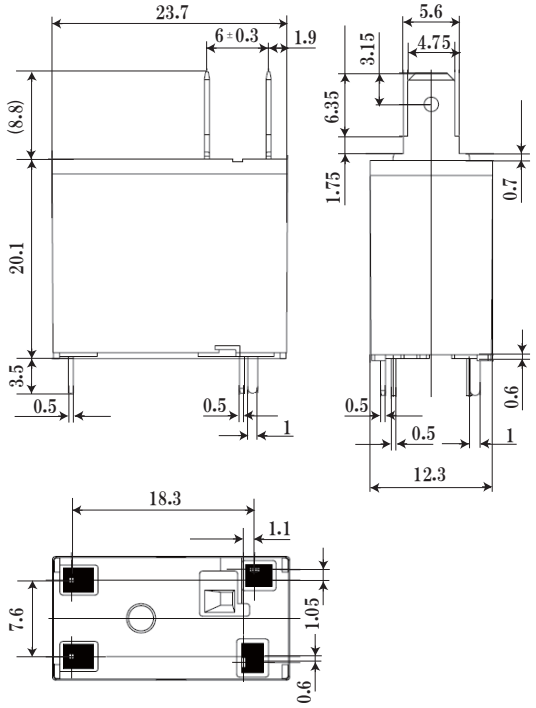
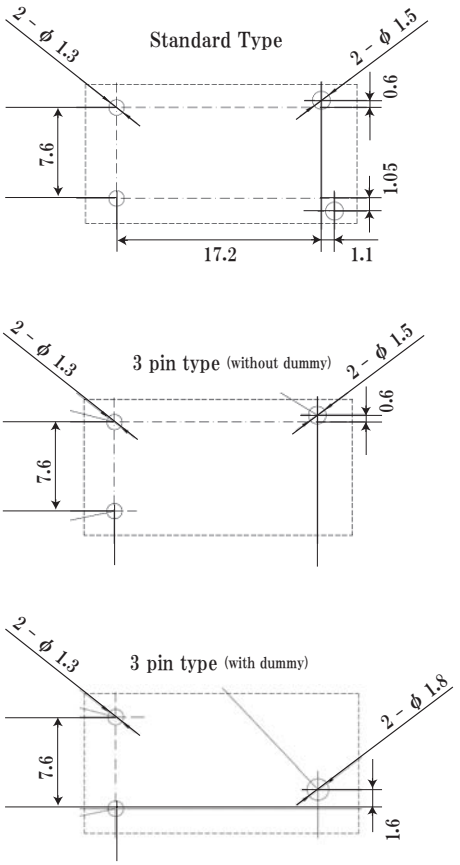
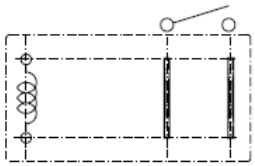
■ Outline Dimensions (unit : mm)



■ PC Board Layouts (Bottom View)



■ Wiring Diagram (Bottom View)

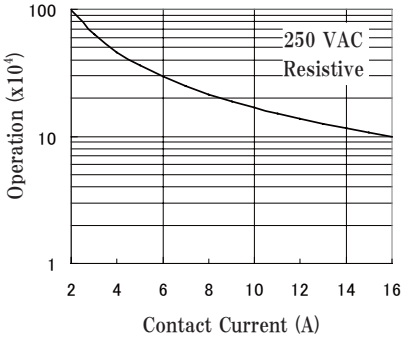


* Refer to below table for any tolerance not specified in the dimension.

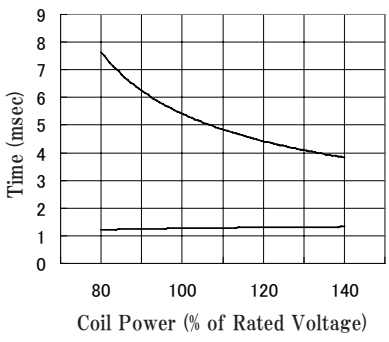
	Tolerance
0.99mm max.	± 0.1mm
1 - 2.99mm	± 0.2mm
3mm min.	± 0.3mm

■ Reference Data

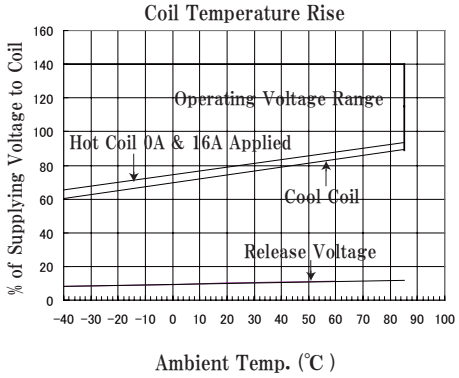
Life Expectancy



Operate Time



Coil Temperature Rise



■ Ordering Information

Typical Part Number → E K 0 0 - 1 A 3 - D 0 0 5

1. Product family
   - EK = 16A Miniature, Power PC Board Relay
2. Sub-Product family
   - 0 = Standard
3. Terminal structure
   - 0 = Standard
   - 1 = 3 pins (without dummy terminal)
   - 2 = 3 pins (Dummy terminal)
4. Number of poles
   - 1 = 1 pole
5. Contact configuration
   - A = 1a (1 Form A)
6. Contact material
   - 3 = AgSnO
7. Coil version
   - D = DC standard 500 mW
8. Coil voltage
   - 005 = 5V 012 = 12V 048 = 48V
   - 006 = 6V 018 = 18V
   - 009 = 9V 024 = 24V

■ Ordering Information

Description	Version	Poles	Contact Arrangement	Coil Material	Coil Version	Coil Voltage	Part Number
EK00-1A3-D012	Standard	1	1a	AgSnO	DC Standard	12 VDC	Available upon request
EK00-1A3-D024					500mW	24 VDC	Available upon request
EK01-1A3-D012	3 pins (without dummy terminal)					12 VDC	Available upon request
EK01-1A3-D024						24 VDC	Available upon request
EK02-1A3-D012	3 pins (with dummy terminal)					12 VDC	Available upon request
EK02-1A3-D024						24 VDC	Available upon request

*Please contact us on parts that are not on the list.

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