

ET1 SERIES

FEATURES

- 50% less relay volume than conventional relay (EP1 Series)
- 75% less relay space than conventional relay (EP1 Series)
- 70% less relay height than conventional relay (EP1 Sereis)
- 50% less relay weight than conventional relay (EP1 Sereis)
- Contact switching current of 25A max.
- Flux tight housing
- Delivered in stick-tube for automatic insertion machine
- Washable type available

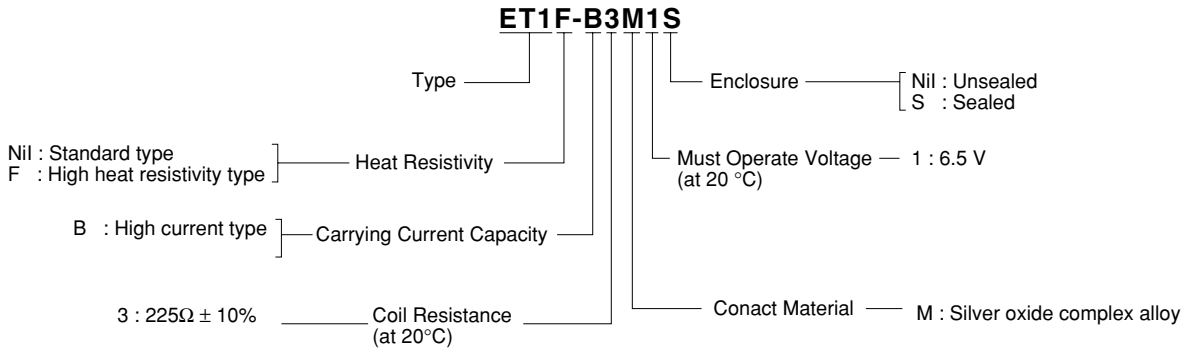


PART NUMBERS AND COIL RATINGS

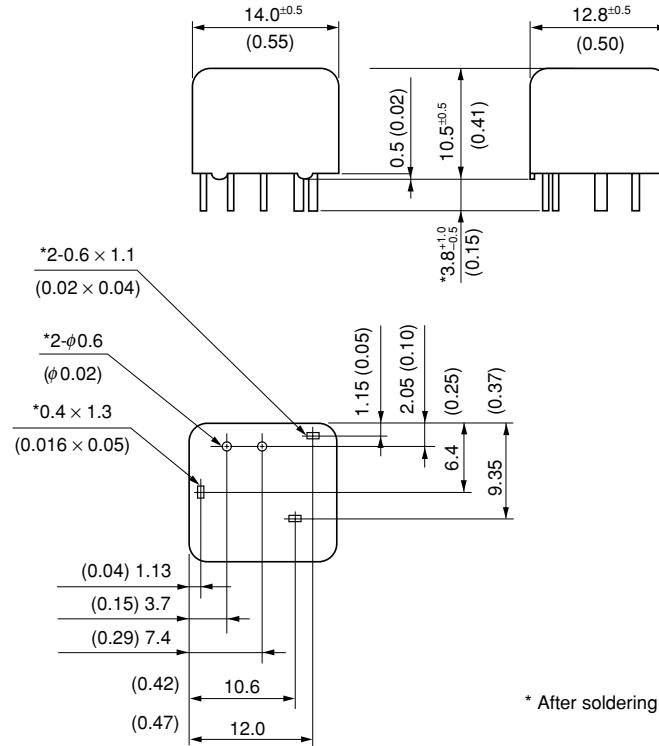
At 20°C (68°F)

Part Number	Nominal Voltage (Vdc)	Coil Resistance ($\Omega \pm 10\%$)	Nominal Current (mA)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Nominal Operate Power (W)
ET1-B3M1S	12	225	53.3	6.5	0.9	0.64

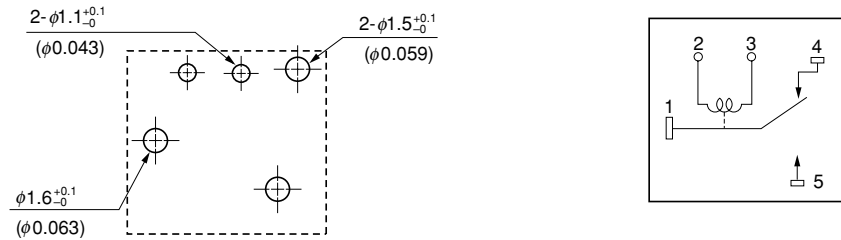
PART NUMBER SYSTEM



DIMENSIONS mm (inch)



PCB PAD LAYOUT and SCHEMATICS (bottom view) mm (inch)



SPECIFICATIONS

At 20°C (68°F)

Items	Specification	
	ET1	ET1F
Contact Form	1 form c	
Contact Material	Silver oxide complex alloy	
Contact Resistance	4 mΩ typical (measured at 7 A) initial	
Contact Switching Voltage	16 Vdc max. 5 Vdc min.	
Contact Switching Current	25 A max. (at 16 Vdc)	
Contact Carrying Current	35 A (2 minutes max. 12 Vdc at 20°C) 30 A (2 minutes max. 12 Vdc at 85°C)	40 A (2 minutes max. 12 Vdc at 20°C) 35 A (2 minutes max. 12 Vdc at 85°C) 30 A (2 minutes max. 12 Vdc at 125°C)
Operate Time	2.5 ms typical (at nominal voltage) initial	
Release Time	3.0 ms typical (at nominal voltage. with diode) initial	
Nominal Operate Power	640 mW	
Insulation Resistance	100 MΩ min. at 500 Vdc	
Breakdown Voltage	500 Vac min. for 1 minute	
Shock Resistance	98 m/s ² min. [misoperating]	
Vibration Resistance	10 to 300 Hz, 43 m/s ² min. [misoperating]	
Ambient Temperature	-40°C to +85°C (-40°F to +185°F)	-40°C to +125°C (-40°F to +257°F)
Coil Temperature Rise	70°C/W (contact carrying current 0 A)	
Life Expectancy	Mechanical	1 × 10 ⁶ operations
	Electrical	1 × 10 ⁵ operations (at 14 Vdc, Motor Load 20 A/3 A)
Weight	Approx. 7.5 g	

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While NEC/TOKIN Corporation has been making continuous effort to enhance the reliability of its electronic components, the possibility of defects cannot be eliminated entirely. To minimize risks of damage or injury to persons or property arising from a defect in an NEC/TOKIN electronic component, customers must incorporate sufficient safety measures in its design, such as redundancy, fire-containment, and anti-failure features. NEC/TOKIN devices are classified into the following three quality grades:

"Standard," "Special," and "Specific". The Specific quality grade applies only to devices developed based on a customer designated "quality assurance program" for a specific application. The recommended applications of a device depend on its quality grade, as indicated below. Customers must check the quality grade of each device before using it in a particular application.

Standard: Computers, office equipment, communications equipment, test and measurement equipment, audio and visual equipment, home electronic appliances, machine tools, personal electronic equipment and industrial robots

Special: Transportation equipment (automobiles, trains, ships, etc.), traffic control systems, anti-disaster systems, anti-crime systems, safety equipment and medical equipment (not specifically designed for life support)

Specific: Aircrafts, aerospace equipment, submersible repeaters, nuclear reactor control systems, life support systems or medical equipment for life support, etc.

The quality grade of NEC/TOKIN devices is "Standard" unless otherwise specified in NEC/TOKIN's Data Sheets or Data Books. If customers intend to use NEC/TOKIN devices for applications other than those specified for Standard quality grade, they should contact an NEC/TOKIN sales representative in advance.

(Note)

- (1) "NEC/TOKIN" as used in this statement means NEC/TOKIN Corporation and also includes its majority-owned subsidiaries.
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