



# Taiko Device Techno & Co., Ltd.

## TE1 RELAY SPECIFICATION

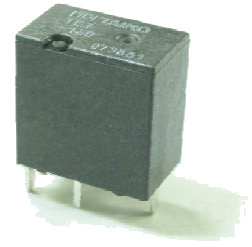
All data are at 20°C ambient temperature unless otherwise noted.

Miniature High Power PCB relay.

Covers a broad range of the automotive applications.

The relays are lead free / RoHS compliant.

Since the TE uses higher grade plastic material the standard version is already suitable for 125°C



### TE1

#### Available Standard Types

TE1	High Temperature	wave solderable	125°C	max. ambient temperature
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Special Features available: ( see nomenclature page)

#### Available Coil Options

Coil Resistance	Coil Inductance	Nominal Power	Operate Voltage	Operate Power	Release Voltage
160 Ω	138 mH	0.900 W	6.5 V	0.264 W	0.8 V
110 Ω	95 mH	1.309 W	5.5 V	0.275 W	0.6 V
220 Ω	185 mH	0.655 W	7.7 V	0.270 W	0.8 V

±10%

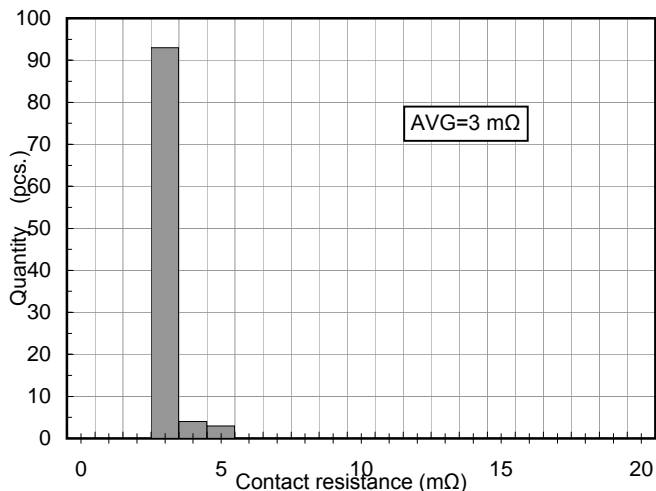
ITEM	SPECIFICATION
Contact Arrangement	1 Form C
Contact Material	AgSnO <sub>2</sub> Alloy
Contact Resistance	Typical 4 mΩ (max 50mΩ at 6 VDC 1A)
Contact Rated Load	25A at 14VDC Motor load (Locked Rotor)
Max. Switching Current/ Voltage	30A at 16VDC
Max. Continuous Current at 20 °C	25A at 14VDC for 2minutes
Min. Switching Current (recommended)	1A at 12VDC
Dielectric Strength	500VAC for 1 minute (between coil and contact)
	500VAC for 1 minute (between open contacts)
Insulation Resistance	Min 100MΩ (at 500VDC)
Operate Time	typical 3 ms (at 12VDC/ 20 )
Release Time	typical 1.5 ms (with no diode parallel to coil)
Shock resistance	False Operation Min 98m/s <sup>2</sup> ( 10G) :Shock wave 11ms
	Endurance Min 980m/s <sup>2</sup> (100G) :Shock wave 6ms
Vibration resistance	False Operation Min 43m/s <sup>2</sup> ( 4.4G) at 10 to 500Hz
	Endurance Min 43m/s <sup>2</sup> ( 4.4G) at 10 to 500Hz
Mechanical Life (no load)	Min 10×10 <sup>6</sup> Operations(300 cycles/minute)
Electrical Life at rated load	Min 0.1×10 <sup>6</sup> Operations(1 sec. ON/ 9 sec. OFF)
Ambient Temperature range	-40°C to 125°C ,Max 85%RH
Weight	Approx. 3.2g

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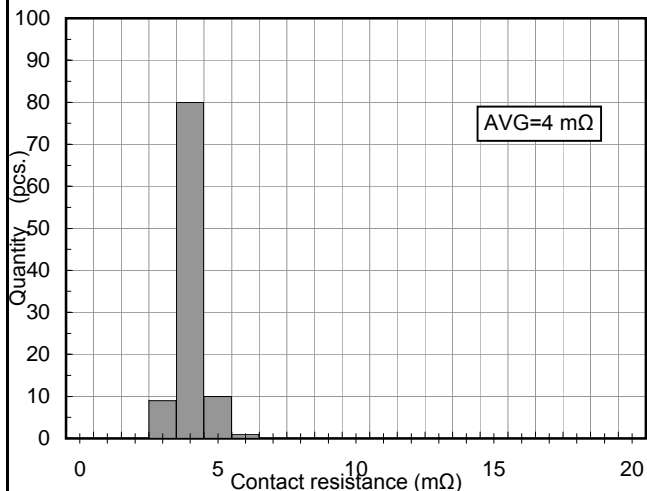
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## TECHNICAL REFERENCE DATA FOR THE TE1-160 RELAY

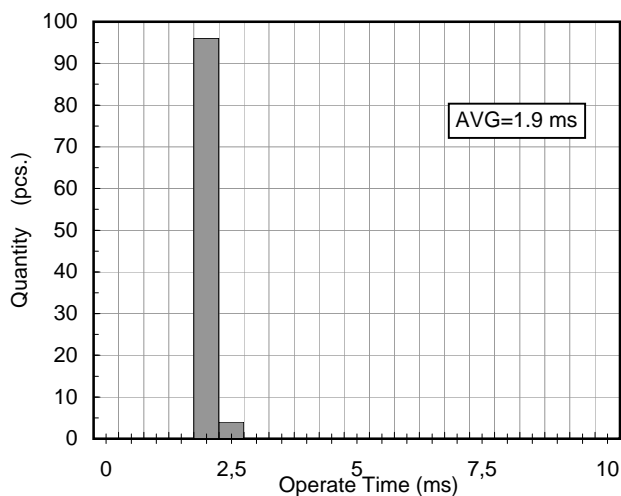
### Contact Resistance of the N/O contact



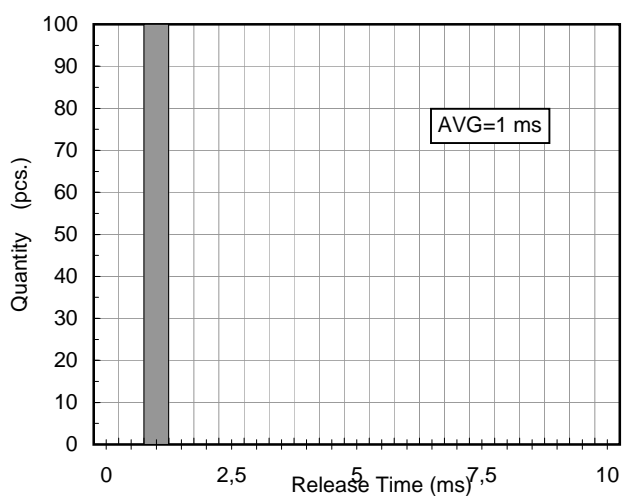
### Contact Resistance of the N/C contact



### Operate Time with 12 V

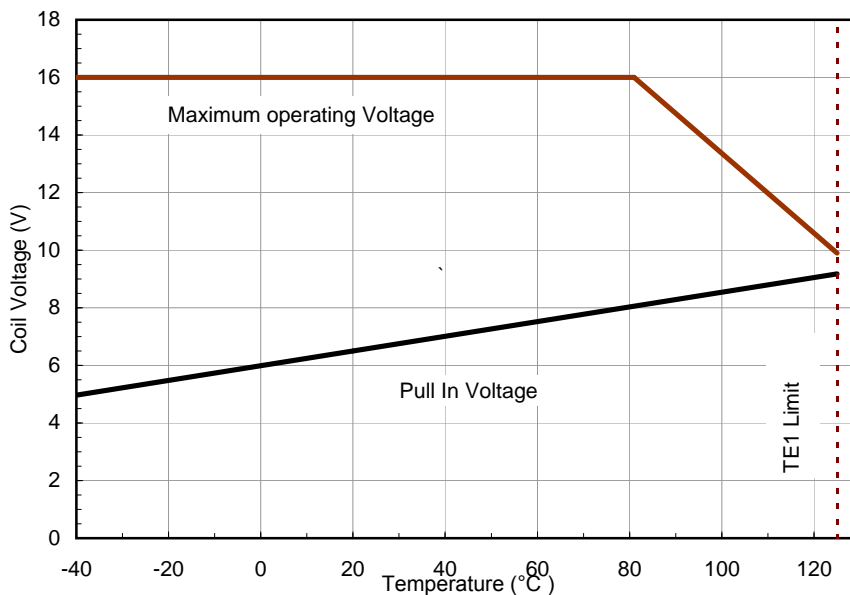


### Release Time without diode



### Operating Voltage Range

Please note, that this diagram shows the Pull In Voltage range for coil at ambient temperature and the Maximum Voltage is either 16 V or the voltage that over time brings the coil to the max. allowed temperature. No Load Current considered.

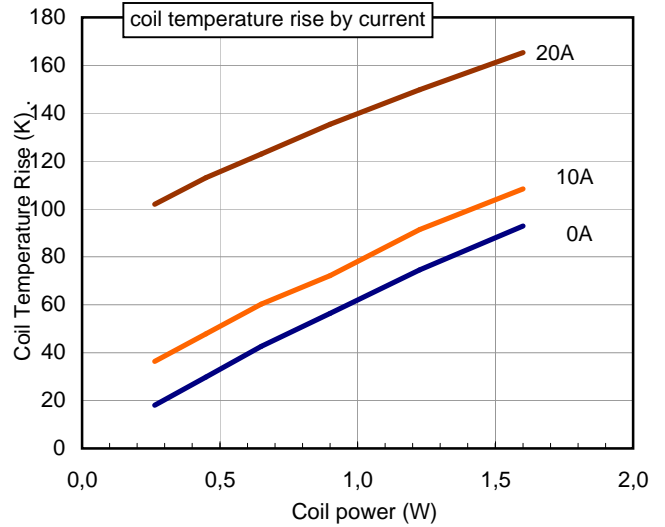
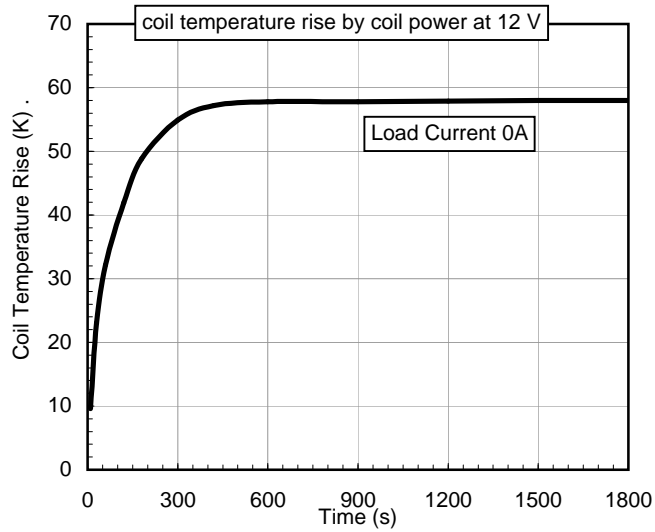


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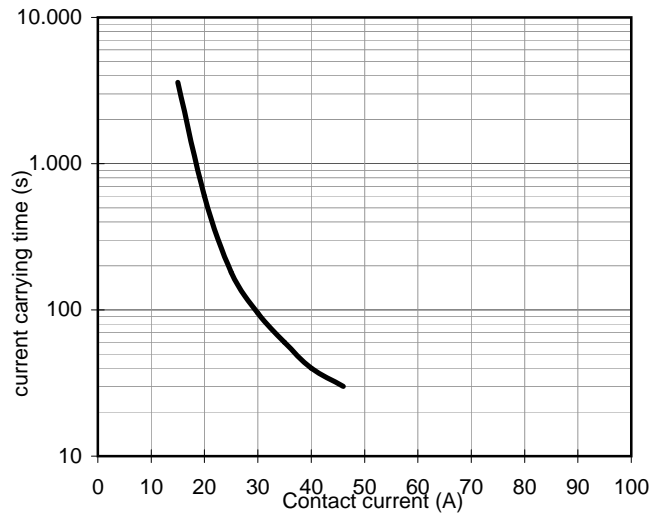
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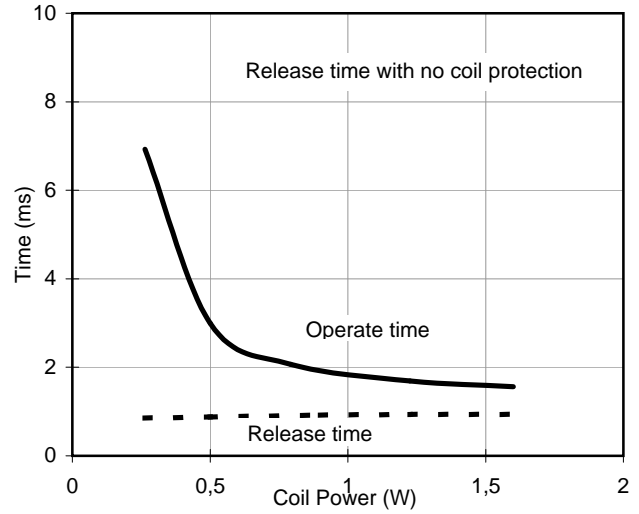
### Coil temperature rise



### Over current limit



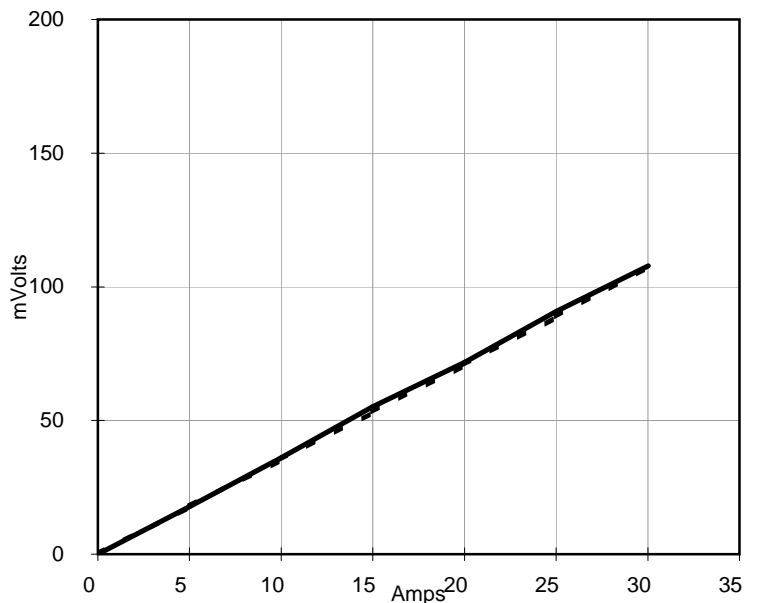
### Operate and Release Time



### Contact voltage drop over the NO contact

- increasing current
- - - decreasing current

This diagram shows the voltage drop over current for the NO contact during the increase of the current and during the decrease

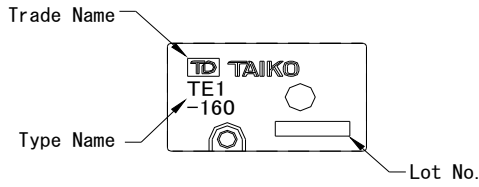


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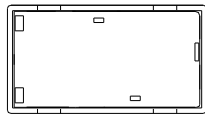
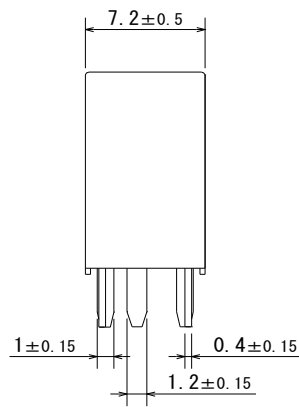
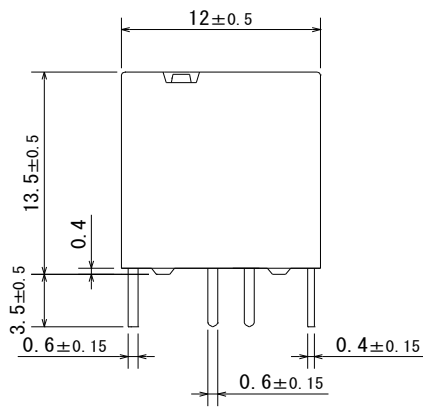
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## External Dimensions / Wiring Diagram / PCB Pin Layout

Fig 1 : External Dimensions \_\_\_\_\_ S



unit: mm



- Terminal section is pre-soldered.
- The terminal dimension shown are after the pre-soldering
- Deviation of terminal pitch is  $\pm 0.2$  at the root of terminal

Fig.2. Wiring diagram (BOTTOM VIEW)

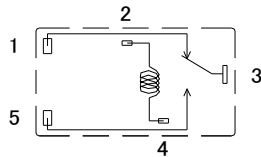
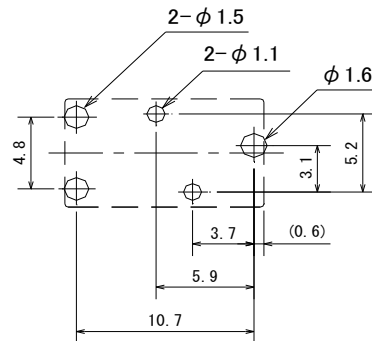


Fig.3. PCB pin layout (Reference figure) (BOTTOM VIEW)



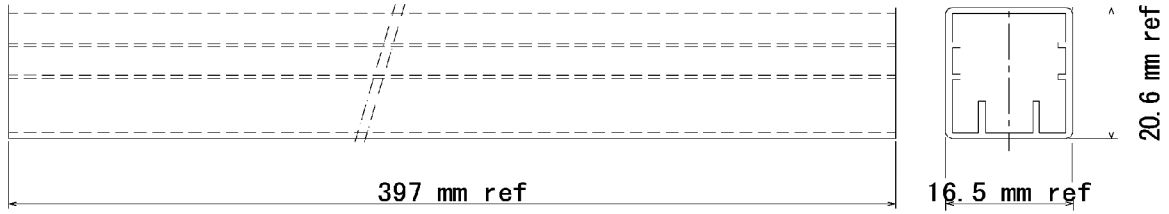
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**Packaging specification**

Standard Tube Packaging

50 relays per tube, 40 tubes per box (2000 relays per box)



**Notes:**

For further information, please contact Taiko device Techno.

**Disclaimer:**

The above information is for information only and with no responsibility, not binding and can be changed any time.  
Taiko Device Techno cannot be held responsible for typos, or misprints.