

## IM - A/B Relay

- Minimum board-space 60mm<sup>2</sup>
- Slim line 10x6mm (0.39x0.24") and low profile 5.65mm (0.222")
- Switching power 60W/62.5VA
- Switching voltage 220VDC/250VAC
- Switching current 2A
- Bifurcated contacts
- High mechanical shock resistance up to 300g functional and 500g survival

### Typical applications

Telecommunication, access and transmission equipment, optical network terminals, modems, office and business equipment, consumer electronics, measurement and Test equipment, industrial control, medical equipment, automotive applications



IM\_AB



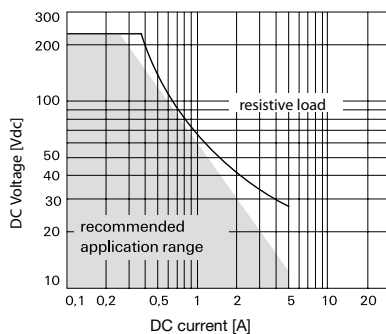
### Approvals

UL 508 File No. E 111441  
Technical data of approved types on request

### Contact Data

|                                               |                                     |
|-----------------------------------------------|-------------------------------------|
| Contact arrangement                           | 1 form A (1 NO)<br>1 form B (1 NC)  |
| Max. switching voltage                        | 220VDC, 250VAC                      |
| Rated current                                 | 2A                                  |
| Limiting continuous current                   | 2A                                  |
| Switching power                               | 60W, 62.5VA                         |
| Contact material                              | PdRu                                |
| Contact style                                 | Au covered<br>twin contacts         |
| Minimum switching voltage                     | 100µV                               |
| Initial contact resistance                    | <100mΩ at 10mA/20mV                 |
| Thermoelectric potential                      | <10µV                               |
| Operate time                                  | typ. 1ms, max. 3ms                  |
| Release time                                  |                                     |
| without diode in parallel                     | typ. 1ms, max. 3ms                  |
| with diode in parallel                        | typ. 3ms, max. 5ms                  |
| Bounce time max.                              | typ. 1ms, max. 5ms                  |
| Electrical endurance                          |                                     |
| at contact application 0<br>(≤ 30mV / ≤ 10mA) | min. 2.5x10 <sup>6</sup> operations |
| cable load open end                           | min. 2.0x10 <sup>6</sup> operations |
| resistive, 125VDC / 0.24A - 30W               | min. 5x10 <sup>5</sup> operations   |
| resistive, 220 VDC / 0.27A - 60W              | min. 1x10 <sup>5</sup> operations   |
| resistive, 250VAC / 0.25A - 62.5VA            | min. 1x10 <sup>5</sup> operations   |
| resistive, 30VDC / 1A - 30W                   | min. 5x10 <sup>5</sup> operations   |
| resistive, 30VDC / 2A - 60W                   | min. 1x10 <sup>5</sup> operations   |

### Max. DC load breaking capacity



### Contact data (continued)

|                                    |                                                                                                             |
|------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Contact ratings, UL contact rating | 220VDC, 0.24A, 60W<br>125VDC, 0.24A, 30W<br>250VAC, 0.25A, 62.5VA<br>125VAC, 0.5A, 62.5VA<br>30VDC, 2A, 60W |
| Mechanical endurance               | 10 <sup>8</sup> operations                                                                                  |

### Coil Data

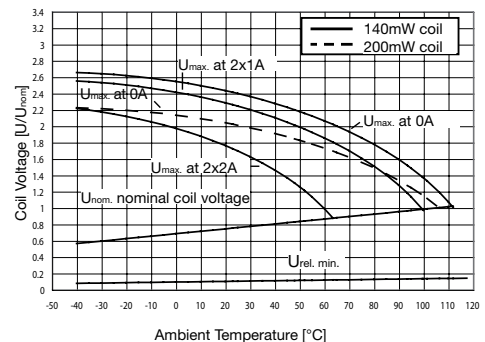
|                       |                      |
|-----------------------|----------------------|
| Magnetic system       | monostable, bistable |
| Coil voltage range    | 1.5 to 24VDC         |
| Max. coil temperature | 125°C                |
| Thermal resistance    | <150K/W              |

### Coil versions, standard version, monostable, 1 coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-----------------------|---------------------|
| 01        | 3.0               | 2.25                | 0.30                | 64                    | 140                 |
| 02        | 4.5               | 3.38                | 0.45                | 145                   | 140                 |
| 03        | 5.0               | 3.75                | 0.50                | 178                   | 140                 |
| 06        | 12.0              | 9.00                | 1.20                | 1029                  | 140                 |

All figures are given for coil without pre-energization, at ambient temperature +23°C

### Coil operating range, standard version



## IM - A/B Relay (Continued)

| Insulation                      | C                       |
|---------------------------------|-------------------------|
|                                 | high dielectric version |
| Initial dielectric strength     |                         |
| between open contacts           | 2500Vrms                |
| between contact and coil        | 3500Vrms                |
| Initial surge withstand voltage |                         |
| between open contacts           | 3500V                   |
| between contact and coil        | 4900V                   |
| Initial insulation resistance   |                         |
| between insulated elements      | $>10^9\Omega$           |
| Capacitance                     |                         |
| between open contacts           | max. 1pF                |
| between contact and coil        | max. 2pF                |
| between adjacent contacts       | max. 2pF                |

| RF Data                                                |                 |
|--------------------------------------------------------|-----------------|
| Isolation at 100MHz/900MHz                             | -37.0dB/-18.8dB |
| Insertion loss at 100MHz/900MHz                        | -0.03dB/-0.33dB |
| Voltage standing wave ratio (VSWR)<br>at 100MHz/900MHz | 1.06/1.49       |

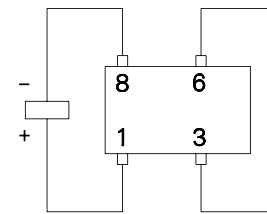
| Other Data                                                                                                                                                                                                                                  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content<br>refer to the Product Compliance Support Center at<br><a href="http://www.te.com/customersupport/rohssupportcenter">www.te.com/customersupport/rohssupportcenter</a> |  |

|                                                  |                                       |
|--------------------------------------------------|---------------------------------------|
| Ambient temperature                              | -40°C to +85°C                        |
| Thermal resistance                               | < 150K/W                              |
| Category of environmental protection             |                                       |
| IEC 61810                                        | RT V - hermetically sealed            |
| Degree of protection                             |                                       |
| IEC 60529                                        | IP 67, immersion cleanable            |
| Vibration resistance (functional)                | 20g, 10 to 500Hz                      |
| Shock resistance (functional), half sinus 11ms   | 50g                                   |
| Shock resistance (destructive), half sinus 0.5ms | 500g                                  |
| Weight                                           | max. 0.75g                            |
| Resistance to soldering heat THT                 |                                       |
| IEC 60068-2-20                                   | 265°C/10s                             |
| Resistance to soldering heat SMT                 |                                       |
| IEC 60068-2-58                                   | 265°C/10s                             |
| Moisture sensitive level, JEDEC J-Std-020D       | MSL3                                  |
| Ultrasonic cleaning                              | not recommended                       |
| Packaging/unit                                   |                                       |
| THT version                                      | tube/50pcs., box/1000 pcs.            |
| SMT version                                      | reel/1000 pcs., box/1000 or 5000 pcs. |

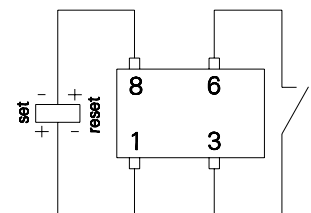
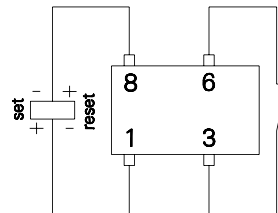
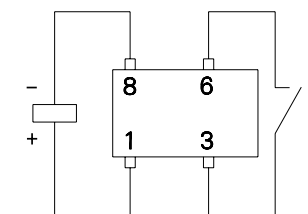
### Terminal assignment

TOP view on relay

IM-A, 1 form B (NC)



IM-B, 1 form A (NO)

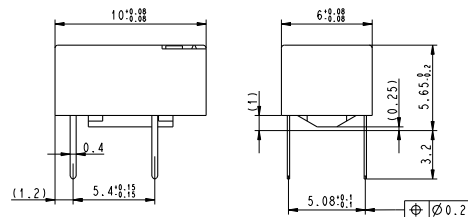


Contacts are shown in reset condition. Contact position might change during transportation and must be reset before use.

### Dimensions

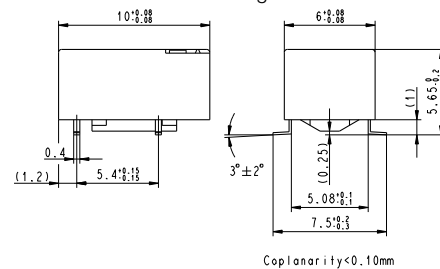
#### THT version

#### Standard version



#### SMT version

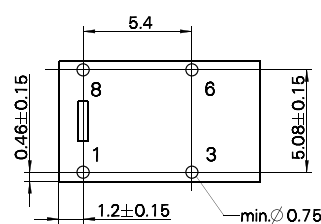
#### Gull wings



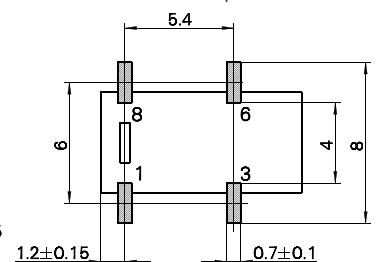
### PCB layout

TOP view on component side of PCB

#### THT mounting holes



#### SMT - solder pads





**IM - A/B Relay** (Continued)

**Product code structure**

Typical product code

**IM**
**B**
**03**
**G**
**R**
**Type**
**IM** Signal Relays IM Series IMA/IMB

**Contact arrangement**
**A** 1 form B, 1 NC

**B** 1 form A, 1 NO

**Coil**

Coil code: please refer to coil versions table

**Performance type**
**Blank** Standard version

**C** High Dielectric Version

**Terminals**
**T** THT - standard

**G** SMT-gull wing

**Packing**
**S** Tube

**R** Reel

| Product code | Arrangement                  | Perf. type      | Coil        | Coil type  | Terminals     | Part Number   |             |
|--------------|------------------------------|-----------------|-------------|------------|---------------|---------------|-------------|
| IMA01CGR     | 1 form B,<br>1 NC<br>contact | High dielectric | 3VDC        | Monostable | SMT gull wing | 1462040-1     |             |
| IMA01CTS     |                              |                 |             |            | THT standard  | 1462040-5     |             |
| IMA02CGR     |                              |                 | 4.5VDC      |            | SMT gull wing | 1462040-2     |             |
| IMA02CTS     |                              |                 |             |            | THT standard  | 1462040-6     |             |
| IMA03CGR     |                              |                 | 5VDC        |            | SMT gull wing | 1462040-3     |             |
| IMA03CTS     |                              |                 |             |            | THT standard  | 1462040-7     |             |
| IMA06CGR     | 1 form A,<br>1 NO<br>contact |                 | 12VDC       |            | SMT gull wing | 1462040-4     |             |
| IMA06CTS     |                              |                 |             |            | THT standard  | 1462040-8     |             |
| IMB01CGR     |                              |                 | 3VDC        |            | SMT gull wing | 1462041-1     |             |
| IMB01CTS     |                              |                 |             |            | THT standard  | 1462041-4     |             |
| IMB02CGR     |                              |                 | 4.5VDC      |            | SMT gull wing | 1462041-2     |             |
| IMB02CTS     |                              |                 |             |            | THT standard  | 1462041-5     |             |
| IMB03CGR     |                              |                 | 5VDC        |            | SMT gull wing | 1462041-7     |             |
| IMB03CTS     |                              |                 |             |            | THT standard  | 1462041-8     |             |
| IMB04CGR     |                              |                 | 6VDC        |            | SMT gull wing | 1462041-9     |             |
| IMB06CGR     |                              |                 | 12VDC       |            |               | 1462041-3     |             |
| IMB06CTS     |                              |                 |             |            | THT standard  | 1462041-6     |             |
| IMB07CGR     |                              |                 | 24VDC       |            |               | SMT gull wing | 1-1462041-3 |
| IMB07CTS     |                              |                 |             |            | THT standard  | 1-1462041-4   |             |
| IMB42CGR     |                              |                 | 4.5VDC      |            | Bistable      | SMT gull wing | 1-1462041-6 |
| IMB42CTS     |                              | THT standard    | 1-1462041-5 |            |               |               |             |