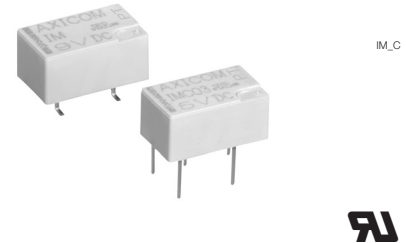


## IM - C Relay

- Minimum board-space 60 mm<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 4A
- Bifurcated contacts
- High mechanical shock resistance

### 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



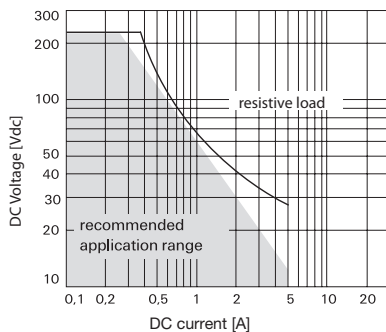
### Approvals

UL 508 File No. E 111441

Technical data of approved types on request

| Contact Data                       | standard                            | C                       |
|------------------------------------|-------------------------------------|-------------------------|
|                                    | standard version                    | high dielectric version |
| Contact arrangement                | 1 Form C (CO)                       |                         |
| Max. switching voltage             | 220VDC, 250VAC                      |                         |
| Rated current                      | 4A                                  | 4A                      |
| Limiting continuous current        | 3A                                  | 3A                      |
| Switching power                    | 60W, 62.5VA                         |                         |
| Contact material                   | PdRu                                |                         |
|                                    | Au covered                          |                         |
| Contact style                      | twin contacts                       |                         |
| Min. recommended contact load      | 100µV/1µA                           |                         |
| Initial contact resistance         | <50mΩ at 10mA/ 30mV                 |                         |
| 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           |                                     |                         |
| (≤ 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)

|                      |                            |
|----------------------|----------------------------|
| UL contact rating    | 30VDC, 2A, 60W, NO only    |
|                      | 110VDC, 0.3A, 33W          |
|                      | 220VDC, 0.27A, 60W         |
|                      | 125VAC, 0.5A, 62.5W        |
|                      | 250VAC, 0.25A, 62.5W       |
| Mechanical endurance | 10 <sup>8</sup> operations |

### Coil Data

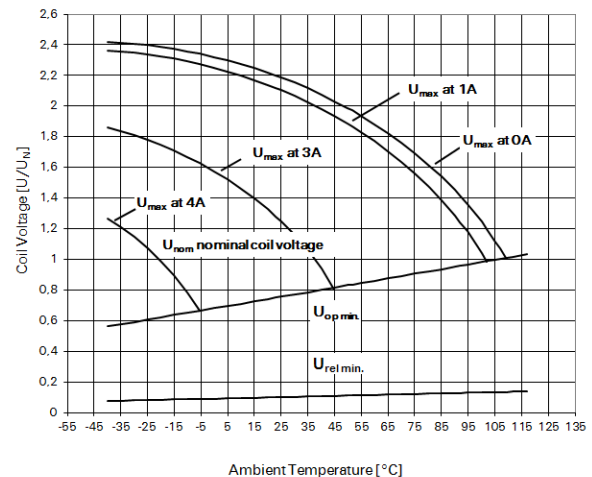
|                       |                      |
|-----------------------|----------------------|
| Magnetic system       | monostable, bistable |
| Coil voltage range    | 1.5 to 24VDC         |
| Max. coil temperature | 125°C.               |
| Thermal resistance    | <150K/W              |

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

| Coil code | Rated voltage VDC | Operate set voltage min VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-----------|-------------------|-----------------------------|---------------------|-----------------------|---------------------|
| 01        | 3                 | 2.25                        | 0.30                | 64                    | 140                 |
| 02        | 4.5               | 3.38                        | 0.45                | 145                   | 140                 |
| 03        | 5                 | 3.75                        | 0.50                | 178                   | 140                 |
| 06        | 12                | 9.00                        | 1.20                | 1029                  | 140                 |
| 07        | 24                | 18.00                       | 2.40                | 2880                  | 140                 |

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

### Coil operating range, standard version



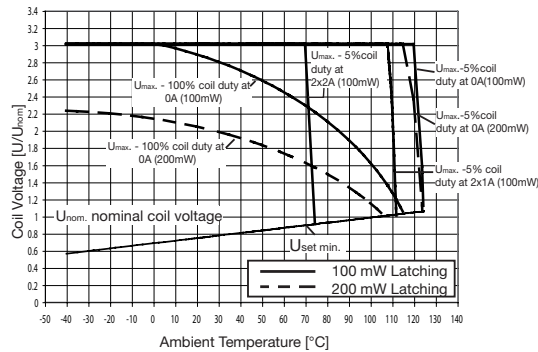
## IM - C Relay (Continued)

### Coil Data (continued)

#### Coil versions, bistable 1 coil

| Coil code | Rated voltage VDC | Set voltage VDC | Reset Voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power mW |
|-----------|-------------------|-----------------|-------------------|-----------------------------------|---------------------|
| 41        | 3                 | 2.25            | -2.25             | 90                                | 100                 |

#### Coil operating range, bistable 1 coil



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

| Insulation                      | standard*            | C*                      |
|---------------------------------|----------------------|-------------------------|
|                                 | standard version     | high dielectric version |
| Initial dielectric strength     |                      |                         |
| between open contacts           | 1000V <sub>rms</sub> | 1600V <sub>rms</sub>    |
| between contact and coil        | 1800V <sub>rms</sub> | 2200V <sub>rms</sub>    |
| between adjacent contacts       |                      |                         |
| Initial surge withstand voltage |                      |                         |
| between open contacts           | 1500V                | 2200V                   |
| between contact and coil        | 2500V                | 3000V                   |
| Initial insulation resistance   |                      |                         |
| between insulated elements      | >10 <sup>9</sup> Ω   | >10 <sup>9</sup> Ω      |
| Capacitance                     |                      |                         |
| between open contacts           |                      | max. 1pF                |
| between contact and coil        |                      | max. 2pF                |
| between adjacent contacts       |                      | max. 2pF                |

\*this relay contains SF6 (Sulfur hexafluoride, CAS number: 2551-62-4) for dielectric strength enhancement, SF6 is hermetically sealed in relay without leaks to air during normal application as recommended per the applicable product specification. It is clarified that the usage of SF6 in mini signal relay is not prohibited by related regulations. Please contact TE local sales or field engineer for further information and detailed material declaration.

### RF Data

|                                                     |                 |
|-----------------------------------------------------|-----------------|
| Cross talk at 100MHz/900MHz                         | -37.0dB/-18.8dB |
| Insertion loss at 100MHz/900MHz                     | 0.03dB/0.33dB   |
| Voltage standing wave ratio (VSWR) at 100MHz/900MHz | 1.06/1.49       |

### Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at [www.te.com/customersupport/rohssupportcenter](http://www.te.com/customersupport/rohssupportcenter)

|                                      |                            |
|--------------------------------------|----------------------------|
| 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       |

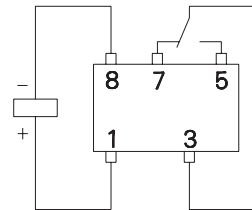
### Other Data (continued)

|                                            |                                       |
|--------------------------------------------|---------------------------------------|
| Resistance to soldering heat THT           | Peak Value                            |
| 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                                  |
| related only to SMT relays                 |                                       |
| packed in original dry-packs               |                                       |
| Ultrasonic cleaning                        | not recommended                       |
| Packaging/unit                             |                                       |
| THT version                                | tube/50pcs., box/1000 pcs.            |
| SMT version                                | reel/1000 pcs., box/1000 or 5000 pcs. |

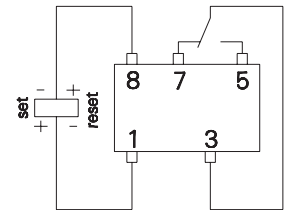
### Terminal assignment

TOP view on relay

Monostable version



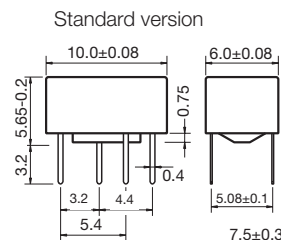
Bistable version, 1 coil reset condition



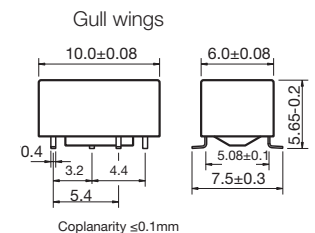
Contacts are shown in reset condition. Contact position might change during transportation and must be reset before use.

### Dimensions

#### THT version



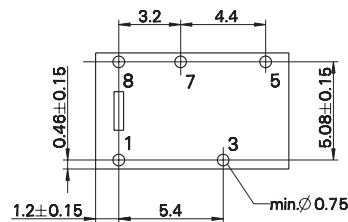
#### SMT version



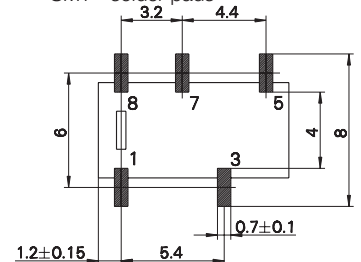
### PCB layout

TOP view on component side of PCB

#### THT mounting holes



#### SMT - solder pads





## IM - C Relay (Continued)

### Product code structure

Typical product code

IM

C

03

G

R

#### Type

**IM** Signal Relays IM Series IMC

#### Contact arrangement

**C** 1 form C, 1 CO

#### 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 |
|--------------|-------------|-----------------|--------|------------|---------------|-------------|
| IMC01GR      | 1 form C,   | Standard        | 3VDC   | Monostable | SMT gull wing | 1462042-1   |
| IMC01TS      | 1 CO        |                 |        |            | THT standard  | 1462042-4   |
| IMC02GR      | contact     |                 | 4.5VDC |            | SMT gull wing | 1462042-2   |
| IMC02TS      |             |                 |        |            | THT standard  | 1462042-5   |
| IMC03GR      |             |                 | 5VDC   |            | SMT gull wing | 1462042-8   |
| IMC03TS      |             |                 |        |            | THT standard  | 1462042-7   |
| IMC06GR      |             |                 | 12VDC  |            | SMT gull wing | 1462042-3   |
| IMC06TS      |             |                 |        |            | THT standard  | 1462042-6   |
| IMC07GR      |             |                 | 24VDC  |            | SMT gull wing | 1-1462042-1 |
| IMC07TS      |             |                 |        |            | THT standard  | 1-1462042-2 |
| IMC02CGR     |             | High dielectric | 4.5VDC |            | SMT gull wing | 1-1462042-0 |
| IMC06CGR     |             |                 | 12VDC  |            |               | 1462042-9   |
| IMC06CTS     |             |                 |        |            | THT standard  | 1-1462042-4 |
| IMC41CTS     |             |                 | 3VDC   | Bistable   |               | 1-1462042-3 |

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