

IM - C Relay

- Minimum board-space 60 mm²
- 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



IM-C



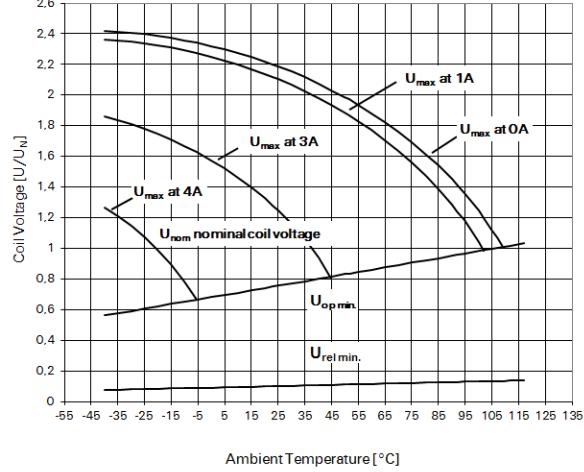
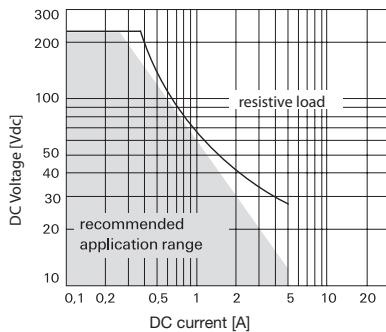
Approvals

UL 508 File No. E 111441

Technical data of approved types on request

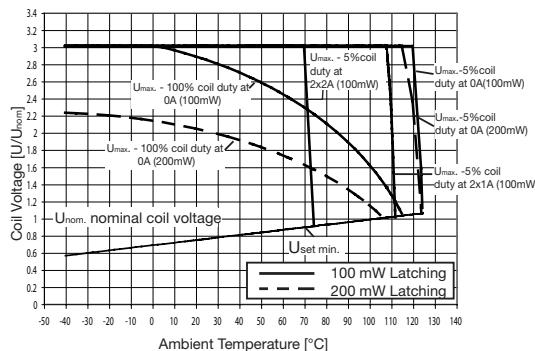
| Contact Data | standard | C |
|--|-------------------------------------|-------------------------|
| | standard version | high dielectric version |
| Contact arrangement | 1 Form C (CO) | |
| Max. switching voltage | 220VDC, 250VAC | |
| Rated current | 4A | 4A |
| Limiting continuous current | 3A | 3A |
| Switching power | 60W, 62.5VA | |
| Contact material | PdRu | |
| Contact style | Au covered 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 ⁶ operations | |
| cable load open end | min. 2.0x10 ⁶ operations | |
| resistive, 125VDC / 0.24A - 30W | min. 5x10 ⁵ operations | |
| resistive, 220 VDC / 0.27A - 60W | min. 1x10 ⁵ operations | |
| resistive, 250VAC / 0.25A - 62.5VA | min. 1x10 ⁵ operations | |
| resistive, 30VDC / 1A - 30W | min. 5x10 ⁵ operations | |
| resistive, 30VDC / 2A - 60W | min. 1x10 ⁵ operations | |

Max. DC load breaking capacity



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 _{rms} | 1600V _{rms} |
| between contact and coil | 1800V _{rms} | 2200V _{rms} |
| between adjacent contacts | | |
| Initial surge withstand voltage between open contacts | 1500V | 2200V |
| between contact and coil | 2500V | 3000V |
| Initial insulation resistance between insulated elements | $>10^9\Omega$ | $>10^9\Omega$ |
| 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 | |
| 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 |

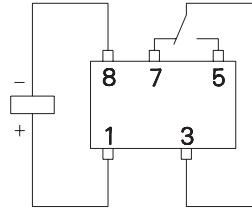
Vibration resistance (functional) 20g, 10 to 500Hz
 Shock resistance (functional), half sinus 11ms 50g
 Shock resistance (destructive), half sinus 0.5ms 500g
 Weight max. 0.75g

Other Data (continued)

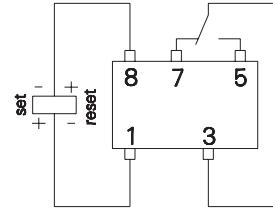
| | |
|--|---------------------------------------|
| Resistance to soldering heat THT IEC 60068-2-20 | Peak Value 265°C/10s |
| Resistance to soldering heat SMT IEC 60068-2-58 | 265°C/10s |
| Moisture sensitive level, JEDEC J-Std-020D related only to SMT relays packed in original dry-packs | MSL3 |
| 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
 Monostable version



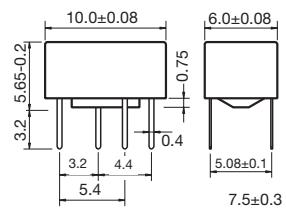
Bistable version, 1 coil reset condition



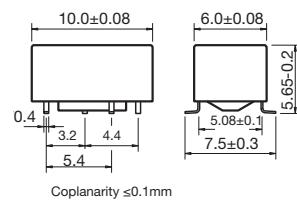
Contacts are shown in reset condition. Contact position might change during transportation and must be reset before use.

Dimensions
THT version

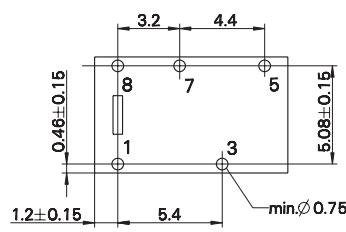
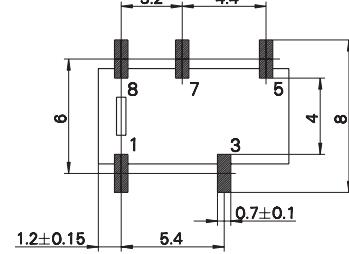
Standard version


SMT version

Gull wings


PCB layout

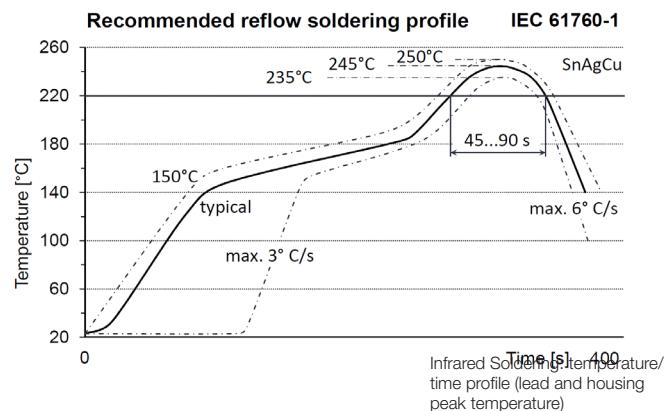
TOP view on component side of PCB

THT mounting holes

SMT - solder pads


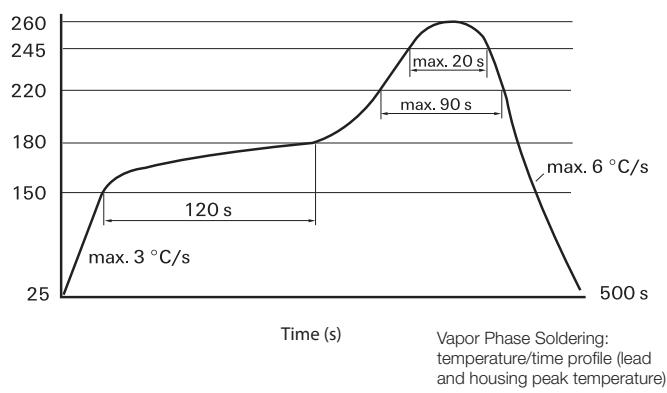
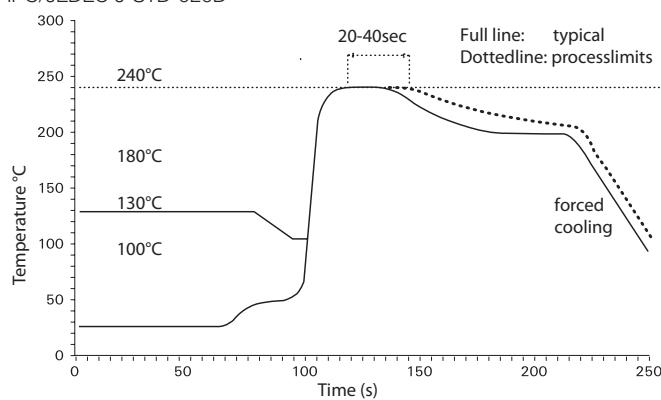
IM - C Relay (Continued)

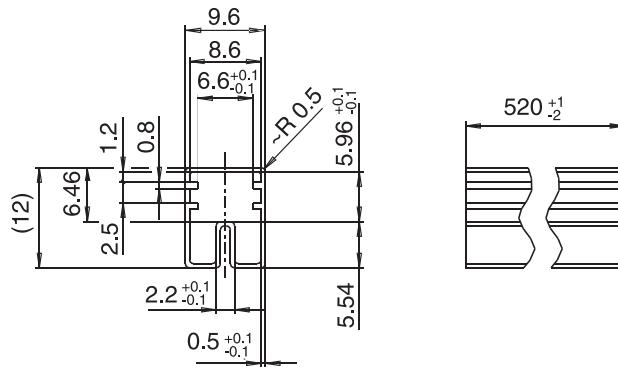
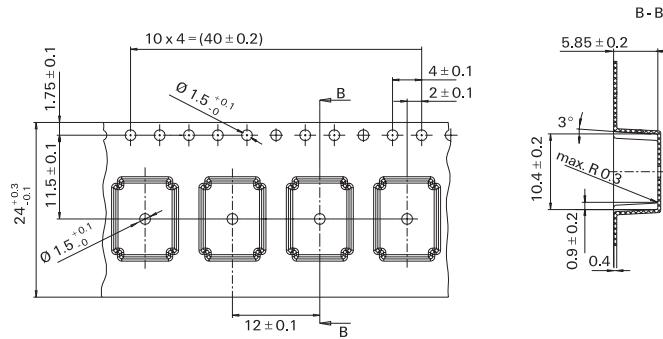
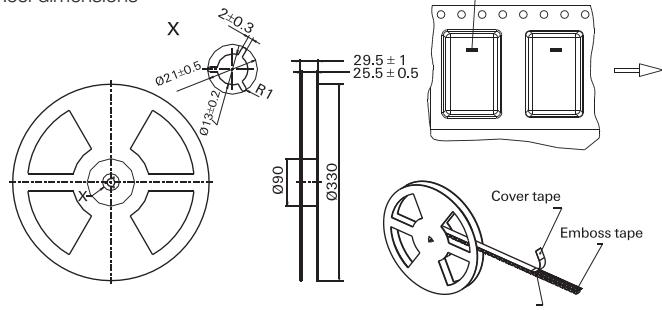
Processing

Recommended soldering conditions



Resistance to soldering heat - Reflow profile


 Soldering conditions according IEC 60058-2-58 and
IPC/JEDEC J-STD-020D

Packing

 Tube for THT version
50 relays per tube, 1000 relays per box

 Tape and reel for SMT version
1000 relays per reel, 1000 or 5000 relays per box

Reel dimensions


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 |