

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 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_C

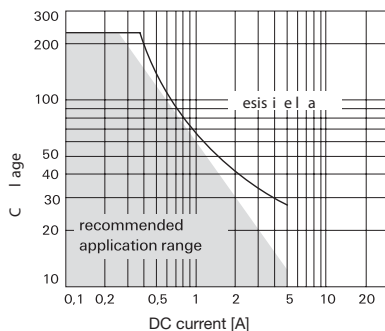


Approvals

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

| | 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 | |
| Thermoelectric potential | <10µV | |
| Operate time | typ. 1ms, max. 3ms | |
| Release time | typ. 1ms, max. 3ms | |
| without diode in parallel | typ. 3ms, max. 5ms | |
| with diode in parallel | typ. 3ms, max. 5ms | |
| Bounce time max. | typ. 1ms, max. 5ms | |
| Electrical endurance | at contact application 0 (≤ 30mV / ≤ 10mA) | |
| cable load open end resistive, 125VDC / 0.24A - 30W | min. 2.5x10 ⁶ operations | |
| resistive, 220 VDC / 0.27A - 60W | min. 2.0x10 ⁶ operations | |
| resistive, 250VAC / 0.25A - 62.5VA | min. 5x10 ⁵ operations | |
| resistive, 30VDC / 1A - 30W | min. 1x10 ⁵ operations | |
| resistive, 30VDC / 2A - 60W | min. 1x10 ⁵ operations | |

Max. DC load breaking capacity



Contact Data (continued)

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

Coil Data

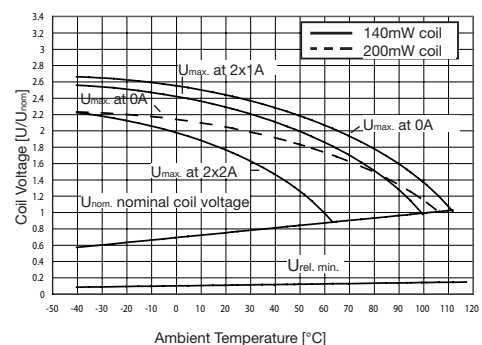
| | |
|-----------------------|----------------------|
| Magnetic system | monostable, bistable |
| Coil voltage range | 1.5 to 24VDC |
| Max. coil temperature | 125°C. |
| Thermal resistance | <150K/W |

Coil versions, standard version, monostable, 1 coil

| Coil code | Rated voltage VDC | Operate set voltage 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)

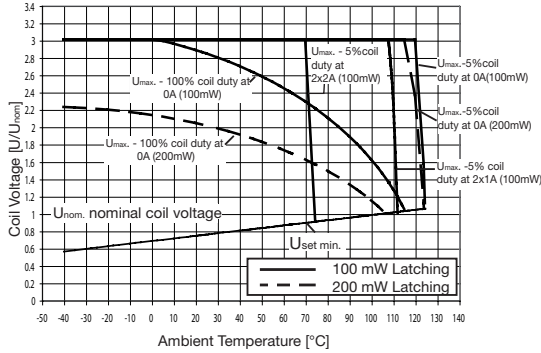
Coil Data (continued)

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 |

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

Coil operating range, bistable 1 coil



| Insulation | standard | C |
|---------------------------------|----------------------|-------------------------|
| | standard version | high dielectric version |
| Initial dielectric strength | | |
| between open contacts | 1000V _{rms} | 1800V _{rms} |
| between contact and coil | 1800V _{rms} | 2500V _{rms} |
| between adjacent contacts | | |
| Initial surge withstand voltage | | |
| between open contacts | 1500V | 2500V |
| between contact and coil | 2500V | 2500V |
| Initial insulation resistance | | |
| between insulated elements | >10 ⁹ Ω | >10 ⁹ Ω |
| Capacitance | | |
| between open contacts | | max. 1pF |
| between contact and coil | | max. 2pF |
| between adjacent contacts | | max. 2pF |

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.tycoelectronics.com/customer-support/rohssupportcenter

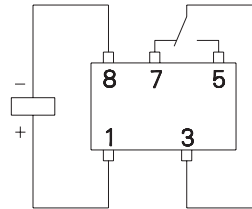
| | |
|--|----------------------------|
| Ambient temperature | -40°C to +85°C |
| Thermal resistance | <150K/W |
| Category of environmental protection | |
| IEC 61810 | RT V - hermetically sealed |
| Degree of protection | |
| IEC 60529 | IP 67, immersion cleanable |
| Vibration resistance (functional) | 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)

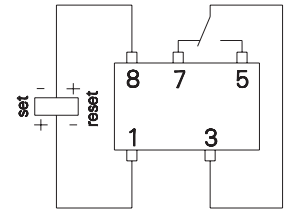
| | |
|---|---------------------------------------|
| Resistance to soldering heat THT IEC 60068-2-20 | 265°C/10s |
| Resistance to soldering heat SMT IEC 60068-2-58 | 265°C/10s |
| Moisture sensitive level, JEDEC J-Std-020D | MSL3 |
| Ultrasonic cleaning | not recommended |
| Packaging/unit | |
| THT version | tube/50pcs., box/1000 pcs. |
| SMT version | reel/1000 pcs., box/1000 or 5000 pcs. |

Terminal assignment
TOP view on relay

Monostable version



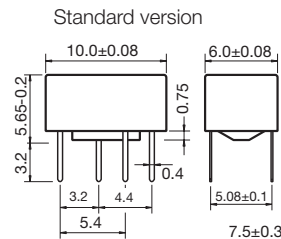
Bistable version, 1 coil reset condition



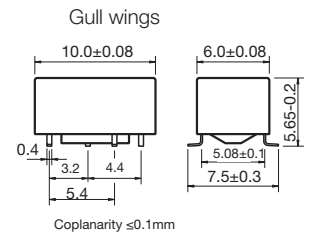
Contacts are shown in reset condition. Contact position might change during transportation and must be reset before use.

Dimensions

THT version



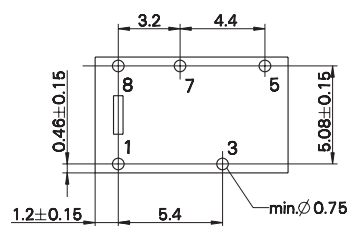
SMT version



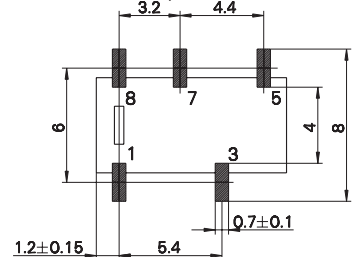
PCB layout

TOP view on component side of PCB

THT mounting holes



SMT - solder pads

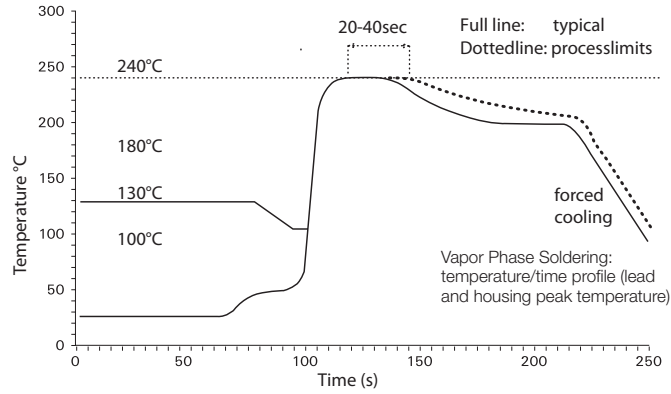


IM - C Relay (Continued)

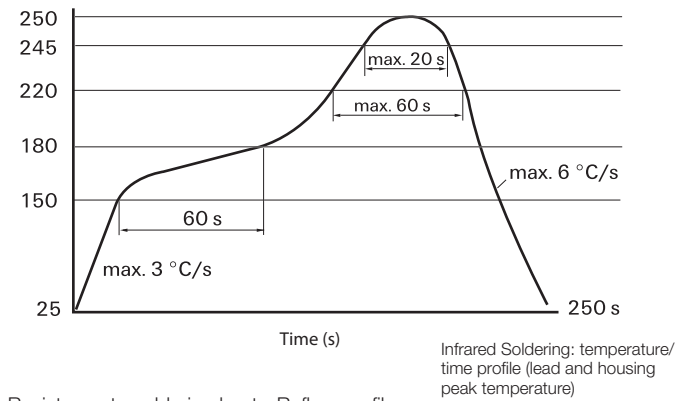
Processing

Recommended soldering conditions

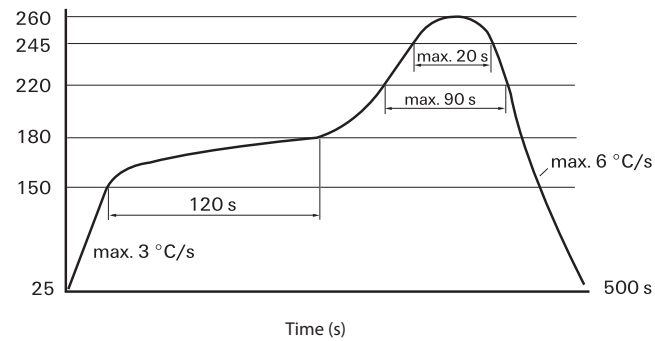
Soldering conditions according IEC 60058-2-58 and IPC/JEDEC J-STD-020B



Recommended reflow soldering profile



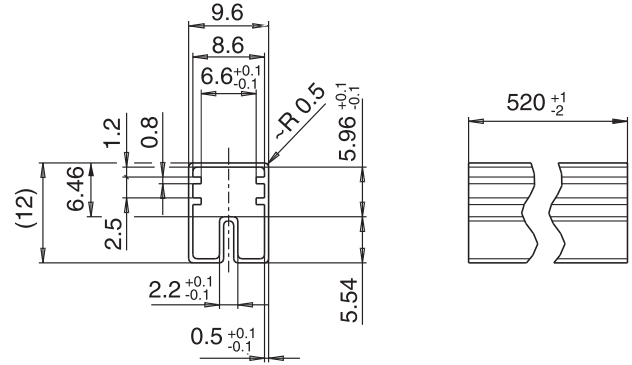
Resistance to soldering heat - Reflow profile



Packing

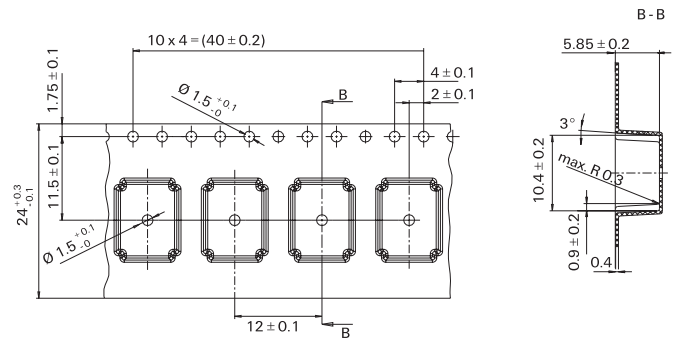
Tube for THT version

50 relays per tube, 1000 relays per box

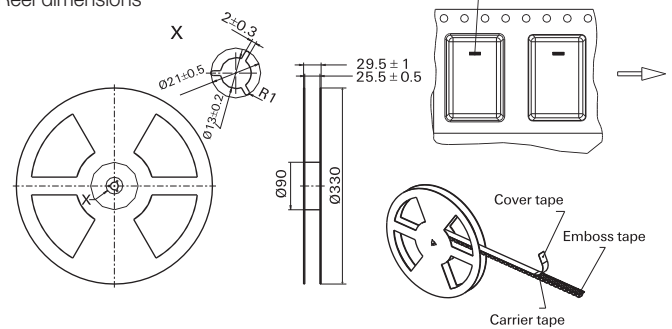


Tape and reel for SMT version

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, 1 CO contact | Standard | 3VDC | Monostable | SMT gull wing | 1462042-1 |
| IMC01TS | | | THT standard | | 1462042-4 | |
| IMC02GR | 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 | High dielectric | 4.5VDC | Monostable | SMT gull wing | 1-1462042-0 |
| IMC06CGR | | | 12VDC | | 1462042-9 | |
| IMC06CTS | | | 9VDC | | THT standard | 1-1462042-4 |
| IMC41CTS | | | 3VDC | | Bistable | 1-1462042-3 |

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